



# FLOW CYTOMETRY

2022 CATALOG - Outside US



**VISUALIZE**  
*the possibilities.*

 **BECKMAN  
COULTER**  
*Life Sciences*





# Flow Cytometry Catalog

## Outside US Version

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Mario Kokschi, MD PhD MBA  
Vice President and General Manager  
Flow Cytometry Business Unit  
Beckman Coulter Life Sciences

### Welcome!

*On behalf of Beckman Coulter Life Sciences, I'd like to thank you for partnering with us for your clinical and biodiscovery flow cytometry applications.*

*Our goal is to be your partner in flow cytometry from bench to bedside—by providing the technology, products, services and customization options you need to get the most accurate, reproducible, and high-quality results in a timely and cost-efficient way. You can rely on us to help you meet a variety of challenges, from streamlining your workflow and reducing sample preparation time, to eliminating time-consuming manual steps that can result in costly errors.*

*We value the trust you place in us to deliver the innovation you need—from reagents, assays, new dyes, software, and instruments. Some recent examples of these innovations include:*

- Continuous expansion of our broad range of antibody conjugates, such as our **liquid and DURAClone dry reagents** for clinical and biomedical research use.
- Upgrading our portfolio of CE-IVD reagents and assays to meet the **new requirements according to IVDR**.
- Introducing our **next generation of uniquely bright SuperNova polymer fluorescent dyes**, with limited non-specific staining.
- Expansion of the CytoFLEX Platform with the addition of the **CytoFLEX SRT** benchtop sorter.
- Translating the power and sensitivity of the CytoFLEX Platform into the **DxFLEX Flow Cytometer** for clinical applications.
- Launching our **new clinical sample preparation system, CellMek SPS**, that combines full traceability and onboard cell washing capabilities with parallel processing, on demand sample loading and unloading to help you optimize time to result for your patient samples.
- Evolving our software offering to a comprehensive ecosystem from analysis to information management and leveraging machine learning-assisted tools by integrating our **Kaluza and Cytobank** platforms.

*We proudly dedicate to you, our customer, our 30+ years of experience and innovation in clinical and biodiscovery flow cytometry. And we look forward to continuing to serve you—from experimental and assay design and training, to technical support and service.*

*At Beckman Coulter Life Sciences, we are committed to accelerate answers, answers to life's important questions. Our commitment to you is simple: **We will continue to provide you with solutions that deliver accuracy, while enabling you—and your lab—to work efficiently and help you to preserve the flexibility required to take on future challenges.***

*Again, we're honored to be your partner. Your challenges are our challenges. And whenever you need to explore solutions to those challenges, we hope you'll start at [www.beckman.com/home](http://www.beckman.com/home).*

*Warmest regards,*

*Mario Kokschi,*

## IVDR COMPLIANCE CLINICAL FLOW CYTOMETRY

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The new European In Vitro Diagnostic Regulation (IVDR) went into force in May 2017 and included a 5-year transition period before enforcement would begin in May 2022, replacing the Directive 98/79/EC (IVDD). This will be a major change in European regulations for commercializing in vitro diagnostic (IVD) medical devices in the European market, and for countries requiring CE mark. It includes substantial additional requirements for new IVD products as well as for the continuing commercialization of existing CE-marked portfolios.

With the decision to amend the transitional provisions of the IVD Regulation, transition period for different device classes have been extended to 26 May 2025 for Class D devices, 26 May 2026 for Class C and 26 May 2027 for Class B devices and Class A devices placed on the market in a sterile condition. Class A devices that are not sterile are required to comply with IVDR by 26 May 2022. Amendment to transitional provisions also provide additional transition time for most of the requirements pursuant to in-house assays

Beckman Coulter Life Sciences is committed to ensuring its product portfolio and quality management systems are ready to meet the new requirements well in advance of May 2022. Cross-functional teams are working relentlessly to prepare documentation required to demonstrate IVDR compliance for our current hardware, reagents and software portfolios, and establishing new processes and systems as required by this new regulation. Our R&D teams are also continuing to innovate and develop new CE-marked products to continue providing our customers with cutting-edge and compliant IVD products.

The IVDR will create a robust European-wide regulatory framework for improving patient diagnostics and safety. IVDR compliance is a journey, both for IVD manufacturers and clinical flow cytometry laboratories, in particular those relying on user-defined tests. Beckman Coulter Life Sciences will strive to support our customers through their own compliance journey by continuing to provide high-quality CE-marked products and follow-up support as required.

## INNOVATIONS

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### SuperNova dyes



Beckman Coulter introduced in 2021 the next generation of fluorochromes, SuperNova (SN) dyes. SN dyes are based on a patented polymer dyes technology, and conjugated to antibodies through proprietary processes and formulation. SN dyes are excitable by the violet laser and deliver unique brightness for flow cytometry staining, and also generate limited nonspecific staining optimizing the overall staining index. SN dyes are available as standalone single color reagents, or can be provided as part of dry multicolor custom panels.

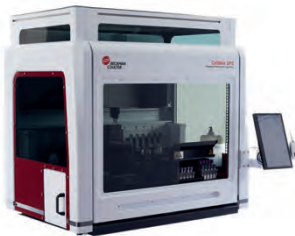
### CytoFLEX SRT Benchtop Cell Sorter

CytoFLEX SRT Cell Sorter is capable of meeting requirements for a wide range of sorting needs. And like the CytoFLEX Platform, it includes innovative technologies that simplify the setup and operation, empowering investigators to focus on the research questions.



### CellMek SPS

The CellMek SPS system is an automated sample preparation workstation that can be programmed to perform a wide variety of liquid handling operations. It is designed to automate staining, lysing, and cell washing for a variety of specimen types and applications in the clinical laboratory, including flow cytometry. The system is intended for in vitro diagnostic use.



### Biomek NGenius

#### Next Generation Library Prep System

A simple, easy-to-use, purpose-built liquid handler for NGS library preparation. BiomekNGenius is ideal for laboratories requiring flexibility and less hands-on-time. The user-friendly interface requires no programming skills.



### Echo Liquid Handlers

Innovative Echo acoustic droplet ejection (ADE) technology delivers precise, accurate and cost-efficient liquid transfers by moving liquids with sound. Whether you're involved in drug discovery, compound management, genomics research, synthetic biology, proteomics functional screening or other research applications, you can do better science and save money with Echo technology.



### EMnetik 24 System

#### DNA Cleanup for Genetic Engineering

EMnetik 24 is a microparticle processor designed to work with the EMnetik PCR Cleanup Kit and EMnetik Plasmid Purification Kit in genetic engineering workflows.





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## NOTES

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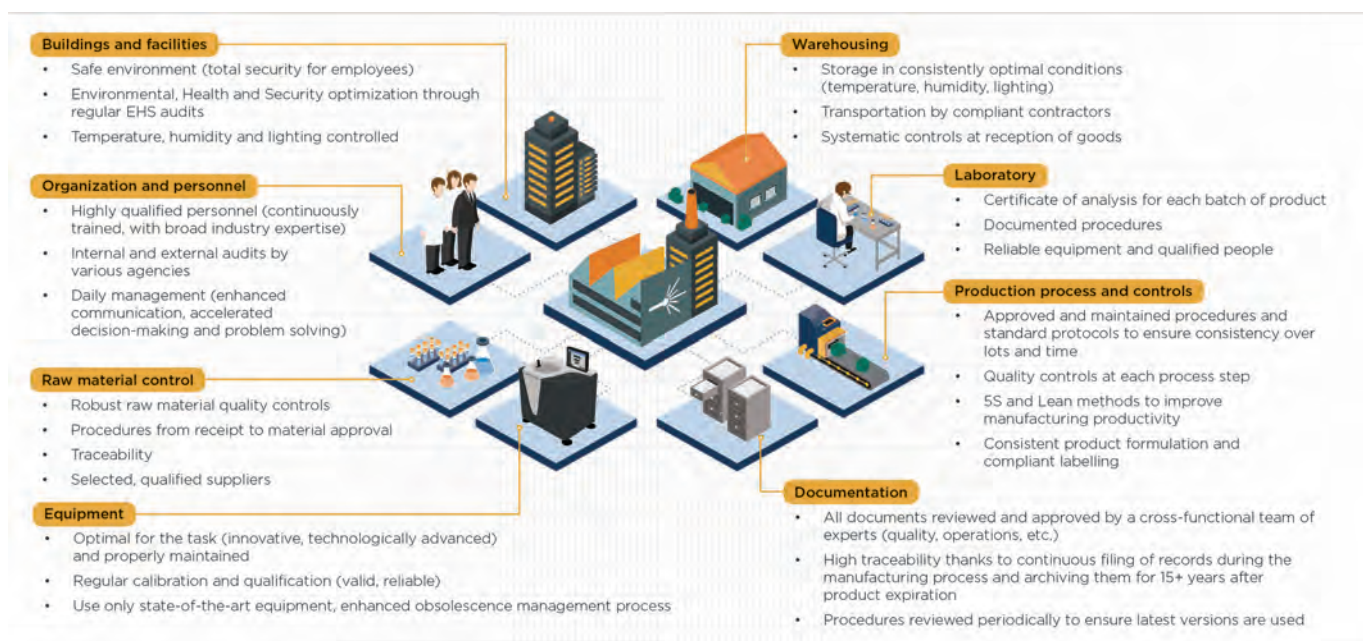


## Manufacturing & Processing

Beckman Coulter Life Sciences is focused on quality, aiming to provide laboratories with the necessary tools to perform tests and assays by flow cytometry under optimal conditions.

### cGMP Manufacturing

The entire Beckman Coulter Flow Cytometry Antibody portfolio is manufactured under current Good Manufacturing Practices (cGMP) of Medical Devices, in facilities that adhere and are certified to the highest standards in the industry. The facilities and the manufacturing processes are audited at regular intervals by national and international quality assurance bodies. Good Manufacturing practices ensure optimal processes are followed from product design and development to manufacturing and product updates. GMP regulations 21CFR Part 820 (Code of Federal Regulations Title 21 / Part 820) provide guidance to ensure products are manufactured under controlled conditions so that products meet consistent specifications across lots and over time, by addressing issues such as quality control, complaint handling, or sanitation. More than 30 years of experience in conjugated antibody development and manufacturing, associated with robust internal performance criteria, make Beckman Coulter a market leader in delivering excellent quality and trusted flow reagent products.



### ISO International Standards

The compliance with standards such as ISO 13485:2016/ ISO 9001:2015 demonstrates continuous improvement of Beckman Coulter's quality management systems (QMS) and processes. Facilities are certified MDSAP (Medical Device Single Audit Program), a program that allows the conduct of a single regulatory audit of a medical device manufacturer's quality management system that satisfies the requirements of multiple regulatory jurisdictions.

### Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Beckman Coulter is committed to maintaining a high level of compliance and diligently working towards meeting the GHS requirements. As Beckman Coulter implements the GHS, customers may see changes to Beckman Coulter labeling, Safety Data Sheets (formerly MSDS), and Instructions For Use.

Beckman Coulter products may also be reclassified in respect to the GHS hazard classification.

For each product that is reclassified, labels, Safety Data Sheets, and Instructions For Use will contain the updated hazardous classification information.



Flow cytometry reagents are typically provided as directly conjugated products and are available as single color configurations or as two, three, four or five color combinations. Around twenty different fluorochromes are available. It represents hundreds of products allowing sample preparation flexibility as well as panel customization.



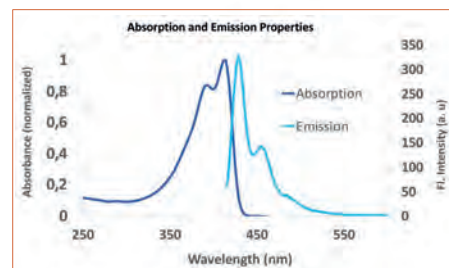
## SUPERNOVA POLYMER DYES

Beckman Coulter Life Sciences introduces the next generation of polymer dyes to bring cutting edge science to clinical research. SuperNova conjugated antibodies not only deliver unique brightness for flow cytometry staining, but also generate limited nonspecific staining thanks to a proprietary formulation.



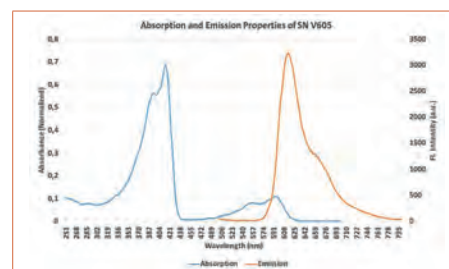
### SuperNova v428

SuperNova v428 (SN v428), the first dye of the series, is optimally excited by the violet laser (405 nm) with an excitation maximum of 414 nm. It has an emission peak of 428 nm and can be detected using a 450/50 bandpass filter or equivalent. It is among the brightest dyes excitable by the violet laser, and is therefore particularly suited for the assessment of dimly expressed markers.



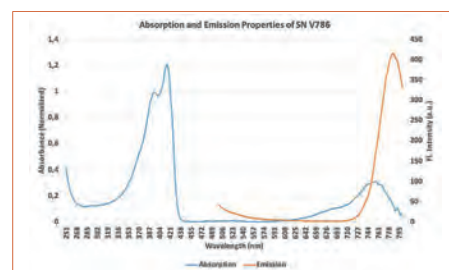
### SuperNova v605

SuperNova v605 is a tandem polymer dye, derived from the core SN v428. Therefore both share the same absorbance characteristics, with a maximum excitation at 414 nm. With emission peaks at 605 nm, it is optimally detected using the 610/20 nm bandpass filters of the flow cytometer.



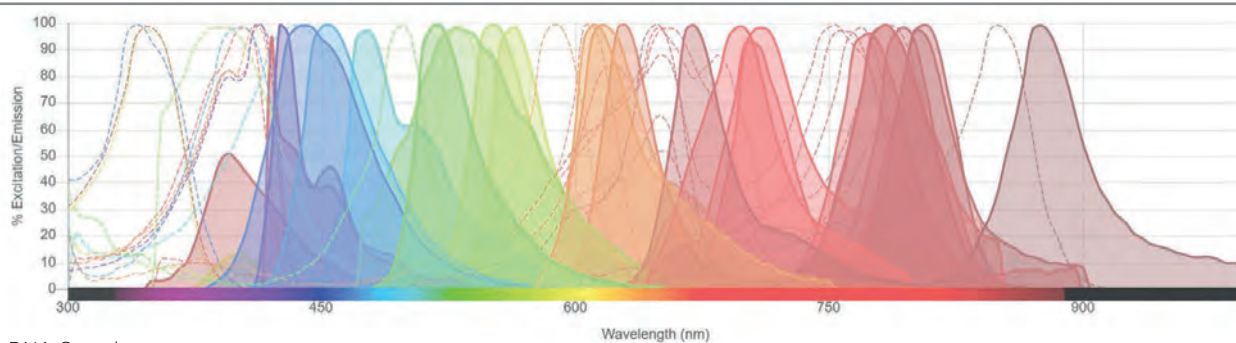
### SuperNova v786

SuperNova v786 is a tandem polymer dye, derived from the core SN v428. Therefore both share the same absorbance characteristics, with a maximum excitation at 414 nm. With emission peaks at 786 nm, it is optimally detected using the 780/60 nm bandpass filters of the flow cytometer.



## FLUOROCHROMES

Abbreviation	Name	Primary Excitation (nm)	Appropriate Light Source	Emission Maximum (nm)	Suitable Band Pass Filter (nm)
<b>Fluorochromes</b>					
SN v428	SuperNova 428	414	Violet/405 nm Diode Laser	428	450
PB	Pacific Blue <sup>§</sup>	405	Violet/405 nm Diode Laser	455	450
KrO	Krome Orange	398	Violet/405 nm Diode Laser	528	550
SN v605	SuperNova 605	414	Violet/405 nm Diode Laser	605	610
SN v786	SuperNova 786	414	Violet/405 nm Diode Laser	786	780
FITC	Fluorescein Isothiocyanate	495	Blue Diode/Argon Laser	520	525
AF488	Alexa Fluor <sup>§</sup> 488	495	Blue Diode/Argon Laser	520	525
Atto <sup>§</sup> 488	Atto 488	488	Blue Diode/Argon Laser	523	525
PE / RD1	Phycoerythrin	480	Blue Diode/Argon Laser	575	575
ECD	Phycoerythrin-Texas Red <sup>§</sup> -x	480	Blue Diode/Argon Laser	620	620
PC5	Phycoerythrin-Cyanin 5	480	Blue Diode/Argon Laser	670	675
PC5.5	Phycoerythrin-Cyanin 5.5	480	Blue Diode/Argon Laser	694	700
PE-Dy649	PE-Dyomics649	488	Blue Diode/Argon Laser	676	675
PC7	Phycoerythrin-Cyanin 7	480	Blue Diode/Argon Laser	767	770
APC	Allophycocyanin	650	Red Diode/HeNe Laser	660	675
AF647	Alexa Fluor <sup>§</sup> 647	650	Red Diode/HeNe Laser	668	675
APC-A700	APC-Alexa Fluor <sup>§</sup> 700	650	Red Diode/HeNe Laser	719	720
AF700	Alexa Fluor <sup>§</sup> 700	695	Red Diode/HeNe Laser	719	720
APC-A750	APC-Alexa Fluor <sup>§</sup> 750	650	Red Diode/HeNe Laser	780	780
AF750	Alexa Fluor <sup>§</sup> 750	749	Red Diode/HeNe Laser	780	780
<b>Fluorescent Viability Dyes</b>					
PI <sup>1</sup>	Propidium Iodide	540	Blue Diode/Argon Laser	620	620
7-AAD <sup>1</sup>	7-Aminoactinomycin D	550	Blue Diode/Argon Laser	660	675
Draq7	Anthraquinone dye	725	Far-red	697	780
ViaKrome 405	405 Fixable Viability Dye	402	Violet/405 nm Diode Laser	425	450
ViaKrome 561	561 Fixable Viability Dye	555	Yellow Green/Blue (488 nm)	565	585
ViaKrome 638	638 Fixable Viability Dye	638	Red Diode/HeNe Laser	655	660
<b>Others</b>					
BIOT	Biotin				
UNLB	Unlabelled, Unconjugated, purified				



<sup>1</sup> As DNA Complex

<sup>§</sup> Trademarks are the property of their respective owners (see Trademarks page)



Line	Ready-to-use	Number of colors	Instrument	Size	Optimal Lysis
Cyto-Stat	Yes	1, 2, 3, or 4	FC500, Navios, or Navios EX based on product labeling	50 tests, 0.5 mL	IMMUNOPREP
COULTER CLONE	Yes	1	Not specified	100 tests	Whole Blood Lysis Reagent Kit
IOtest	Yes	1, 2, or 3	Not specified	100 or 50 tests	VersaLyse
IOtest 3	Yes	3 (FITC/PE/ECD)	Not specified	25 tests	IOtest 3 Lysing Solution
OptiClone	Yes	2, or 3	Not specified	50 tests	OptiLyse Lysing Reagent
DURAClone	Yes	2, 3, 4, 5, 6, 7, 8, 9 or 10	CytoFLEX, Navios, Navios EX	25 tests	VersaLyse, PerFix-nc
ClearLLab	Yes	4 or 5	FC500	25 tests	VersaLyse
ClearLLab LS	Yes	9 or 10	Navios/Navios EX	25 tests	VersaLyse
ClearLLab 10C	Yes	10	Navios/Navios EX	25 tests	VersaLyse

## CYTO-STAT Monoclonal Antibodies

CYTO-STAT Monoclonal Antibodies are :

- Ready-to-use monoclonal antibodies for flow cytometric analysis.
- Available in one, two, three and four-color configurations for direct immunofluorescent staining.
- Provided as 50 tests per vial at 10 µL per test (0.5 mL/vial).

**Source:** Mouse ascitic fluid or conditioned culture media unless otherwise noted.

**Purification:** Ion-exchange, affinity chromatography or gel filtration.

**Components and storage:** supplied in liquid, ready-to-use form requiring no dilution. Store at 2-8°C in the dark without freezing. Expiration date and concentration are indicated on the vial label.



## IMMUNOPREP Reagent System

- No-wash lyse and fix reagent for whole blood lysis.
- Maintains white blood cell integrity and natural scatter characteristics.
- Improves separation between cells of interest versus red blood cell debris and platelets.
- Twenty-four hour processed-sample stability when stored at 2-8°C.

## IOtest and IOtest 3 Conjugated Antibodies

IOtest Conjugated Antibodies are :

- Ready-to-use conjugated monoclonal or polyclonal antibodies for flow cytometric analysis.
- Adapted for manual lysing procedures with a wash and for automated lysing procedures on the PrepPlus 2 Workstation and the FP 1000 Cell Preparation System.
- Barcoded for automated tracking of reagents (incl. lot number and expiration date) on the CellMek SPS sample prep system).
- Open to all instrument platforms.
- Available as single or multi color configurations for direct immunofluorescent staining.
- Single color reagents are titrated for easy mixing in user-defined multi-color combinations.
- Provided as 100 or 50 tests per vial at 10 or 20 µL per test.

**Purification:** affinity chromatography or gel filtration.

**Components and storage:** supplied in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL of bovine serum albumin, unless otherwise specified. The expiration date is indicated on the vial label. Store at 2-8°C in the dark without freezing.



IOtest 3 Conjugated Antibodies are :

- Preformulated and standardized product line composed of antibodies conjugated to FITC, PE and ECD.
- Cover the most useful markers for peripheral blood or bone marrow characterization exploring intracellular as well as surface antigens.
- Optimized to work with the IOtest 3 Lysing Solution and IOtest 3 Fixative Solution.
- IntraPrep Permeabilization Reagent is recommended for intracellular antigen exploration.
- Provided as 25 tests per vial at 20 µL per test.





## OptiClone Monoclonal Antibodies

OptiClone Monoclonal Antibodies are:

- Ready-to-use monoclonal antibodies for flow cytometric analysis. Available in two and three color configurations for direct immunofluorescent staining.
- Specially formulated for use in wash or no-wash procedures using OptiLyse B or C Lysing Reagents.
- Provided as 50 tests per vial at 20  $\mu$ L per test.
- For individual monoclonal antibody specifications, see the product description.

**Purification:** affinity chromatography or gel filtration.

**Components and storage:** supplied in phosphate-buffered saline, containing 0.1% sodium azide and 2 mg/mL of bovine serum albumin, unless otherwise specified. Expiration date and concentration are indicated on the label. Store at 2-8°C in the dark without freezing.



## OptiLyse Lysing Reagent

- OptiLyse C is specially formulated for Beckman Coulter flow cytometers.
- OptiLyse B is specially formulated for BD Biosciences flow cytometers.
- Provided as 200 or 250 tests per vial, at 500  $\mu$ L per test for OptiLyse C and 100  $\mu$ L per test for OptiLyse B.
- Suitable for wash or no-wash applications.

## COULTER CLONE Monoclonal Antibodies

COULTER CLONE Monoclonal Antibodies are:

- Suitable for flow cytometric, microscopic or immunohistochemical procedures.
- Available as purified and fluorochrome-conjugated antibodies for direct immunofluorescent staining.
- Provided as 100 tests per vial at 5  $\mu$ L per test.
- Purified and most FITC antibodies are lyophilized and require reconstitution in 500  $\mu$ L of distilled water.
- RD1 conjugated antibodies are liquid and ready-to-use.

**Source:** Mouse ascitic fluid or conditioned culture media unless otherwise noted.

**Purification:** Ion-exchange, affinity chromatography or gel filtration.

**Components and storage:** supplied in phosphate-buffered saline solution, containing 0.1% sodium azide and 2 mg/mL of bovine serum albumin, unless otherwise specified. The freeze-dried material must be reconstituted with distilled water without preservative as described in the package insert. Expiration date and concentration are indicated on the vial label. Store at 2-8°C in the dark without freezing.



## Other Reagents

Purified and biotinylated antibodies are provided in various formats adapted for multiple applications: cell biology, immunohistochemistry, functional studies, pharmacology, Western blot, immunoprecipitation, and immunostaining.

The lyophilized format (0.1 or 0.2 mg) permits quantitative experiments. The liquid format, sold as a number of tests, is specifically adapted to immunostaining experiments. Many of these products are available for bulk purchase.

**Source:** Polyclonal antibodies from rat, rabbit, goat, and hamster. Monoclonal antibodies from murine ascitic fluid or conditioned culture media.

**Purification:** Ion-exchange, affinity chromatography or gel filtration.

**Components and storage:** In the freeze-dried format, most of the antibodies are supplied in phosphate-buffered saline solution, containing 1 mg/mL bovine serum albumin, without preservative. The freeze-dried material must be reconstituted with distilled water as described in the package insert. Aliquots may be stored at -20°C. Avoid repeated freezing and thawing. The addition of sodium azide (0.1%) is recommended for storage up to one month at 2-8°C.

In the liquid format, antibodies are supplied in phosphate-buffered saline solution, containing 0.1% sodium azide and 2 mg/mL of bovine serum albumin, unless otherwise specified. The expiration date is indicated on the vial label. Storage is at 2-8°C in the dark without freezing. Some other formats are available, please refer to the product list for more information.



## DURAClone Antibody Panels

The DURAClone kits are ready-to-use solutions for highly standardized clinical research flow cytometry:

- DURAClone RE for rare event detection in human blood disorder research
- DURAClone IM for human immune system research
- DURAClone IF and DURActive for human immune functional assays
- DURAClone SC for characterization of human adult stem cells



The dry, unitized, pre-formulated DURAClone kits provide the specified antibody panels as a dried-down layer in each test tube eliminating antibody pipetting. This shortens the turn-around time, minimizes human error sources, and eliminates repetitive workflow steps that are costly to automate. The DURAClone panels can be shipped and stored at room temperature and their standardized format enables the level of experimental rigor that is key to multi-centric and longitudinal clinical research studies.

- Single pre-formulated product
- Developed with leading experts
- Lean workflow, no antibody pipetting
- Minimized inventory management
- Allowing for flexibility where needed

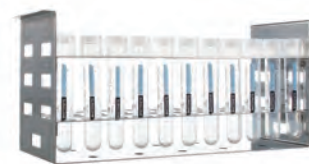
The DURAClone panels are ideally suited for use on the CytoFLEX and the Navios Flow Cytometers.



## DURActive Stimulation Kits

The DURActive stimulation kits contain optimally dosed physiologically active compounds provided as unitized single tests in 12x75 mm tube format.

- Pre-formulated mixes containing 2-3 active compounds
- Unitized dry Beckman Coulter proprietary format
- Expert-proven dosing
- 25 tests/package



## ClearLLab Reagents

ClearLLab Reagents are the first reagents available in the U.S. for leukemia and lymphoma\* flow cytometric immunophenotyping in the clinical lab (via the U.S. Food and Drug Administration (FDA)'s De Novo Process). They are comprised of five pre-formulated antibody cocktails targeted at B-, T-, and Myeloid cell malignancies. For clinical laboratories, adopting the ClearLLab assays means reducing their number of Laboratory Developed Test (LDT) they need to develop and prepare, a technically demanding, time-consuming, and potentially error-prone process. ClearLLab reagents have been specifically designed for the fast and accurate identification of a number of haematolymphoid cell populations on the company's FC500 flow cytometer.

- CE marked
- 25 test size to adapt inventory to actual demand
- 5-combination, 18-marker panel
- Pre-mixed, optimized, comprehensive combinations
- For peripheral blood, bone marrow and lymph node specimens
- Bethesda 2006 international consensus-aligned
- WHO 2008-Revised Classification compatible



## ClearLLab LS

ClearLLab LS Lymphoid Screen antibody panel is the first CE/IVD-marked 10-color assay for leukemia and lymphoma\* analysis. Compared to Laboratory Developed Tests (LDT), the dry ClearLLab LS delivers greater confidence in results with a faster turnaround time (TAT) due to its innovative workflow. It eliminates 14 manual workflow steps, while streamlining five others; and is available through a dry unitized, ready to use formulation. ClearLLab LS has been specifically designed for the fast and accurate identification of haematolymphoid cell populations on the company's Navios and Navios EX flow cytometers.

- One tube screen for lymphoid neoplasias
- Pre mixed, optimized 12 antibody 10 color assay
- Intended for use on 10 color 3 laser Navios and Navios Ex
- For peripheral blood, bone marrow and lymph node specimens. EDTA, Heparin, and ACD anticoagulants
- Unitized test using proven Beckman Coulter dry reagent technology
- 25 test size to adapt inventory to actual demand
- CE marked
- WHO 2008-Revised Classification compatible



## ClearLLab 10C system

The CE/IVD ClearLLab 10C system covers lymphoid and myeloid lineages, without the need for extensive validation and hard to find clinically relevant samples, while offering a streamlined workflow. The CE/IVD solution offers all components needed from quality controls, sample preparation, antibody panels to analysis software and training material. The 4 premixed, dry ClearLLab 10 C panels can aid in the differential diagnosis of hematologically abnormal patients having or suspected of having hematopoietic neoplasms, such as chronic leukemia, acute leukemia, Non-Hodgkin lymphoma, myeloma, myelodysplastic syndrome (MDS), and/or myeloproliferative neoplasms (MPN).

- 4 Premixed, dry ClearLLab CE/IVD 10-color panels using the DURA Innovations technology: Lymphoid (B-cells, T-cells), Myeloid (M1, M2)
- Fluorescence standardization and color compensation setup kits

ClearLLab Control Cells are the first application specific normal and abnormal CE/IVD controls cells as a liquid preparation of stabilized human erythrocytes and leukocytes

- Validated for the use on the Navios/Navios EX flow cytometers
- Kaluza C analysis software for data analysis and reporting



\*For Non-Hodgkin's lymphoma only





## Status Definitions:

- ASR** Analyte specific reagents (ASR's) are antibodies, both polyclonal and monoclonal, specific receptor proteins, ligands, nucleic acid sequences, and similar reagents which, through specific binding or chemical reaction with substances in a specimen, are intended for use in a diagnostic application for identification and quantification of an individual chemical substance or ligand in biological specimens.
- IVD** A medical device is an in vitro diagnostic medical device (IVD) if it is a reagent, calibrator, control material, kit, specimen receptacle, software, instrument, apparatus, equipment or system, whether used alone or in combination with other diagnostic goods for in vitro use. It must be intended by the manufacturer to be used in vitro for the examination of specimens derived from the human body, solely or principally for the purpose of giving information about a physiological or pathological state, a congenital abnormality or to determine safety and compatibility with a potential recipient, or to monitor therapeutic measures.
- CE/IVD** The letters "CE" are the abbreviation of French phrase "Conformité Européene" which literaturly means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents. "CE Mark" is also in use, but it is NOT the official term. CE Marking on a product is a manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislations, in practice by many of the so-called Product Directives.
- LUO** Generic reagents whose use is generally known by a trained person. Not intended to identify a specific disease or condition. These reagents are labeled "For Laboratory Use Only."
- RUO** These are products used for research conducted to study all aspects of human life in an attempt to better understand all underlying mechanisms. In such studies / experiments animal and / or human models are used. No medical purpose is defined, as the specimens taken are not being used for the purpose identified in the definition of an IVD device.
- nMD** Equipment not intended to be used in diagnostic procedures are indicated non-Medical Device (nMD)

## Geographical Distribution:

CE-marked products are sold in European Union (EU) countries and are registered as clinical products in 30+ countries outside of Europe.

IVD products are sold in countries where they comply with applicable regulation.

Other regulatory status are sold everywhere

## IVD-R

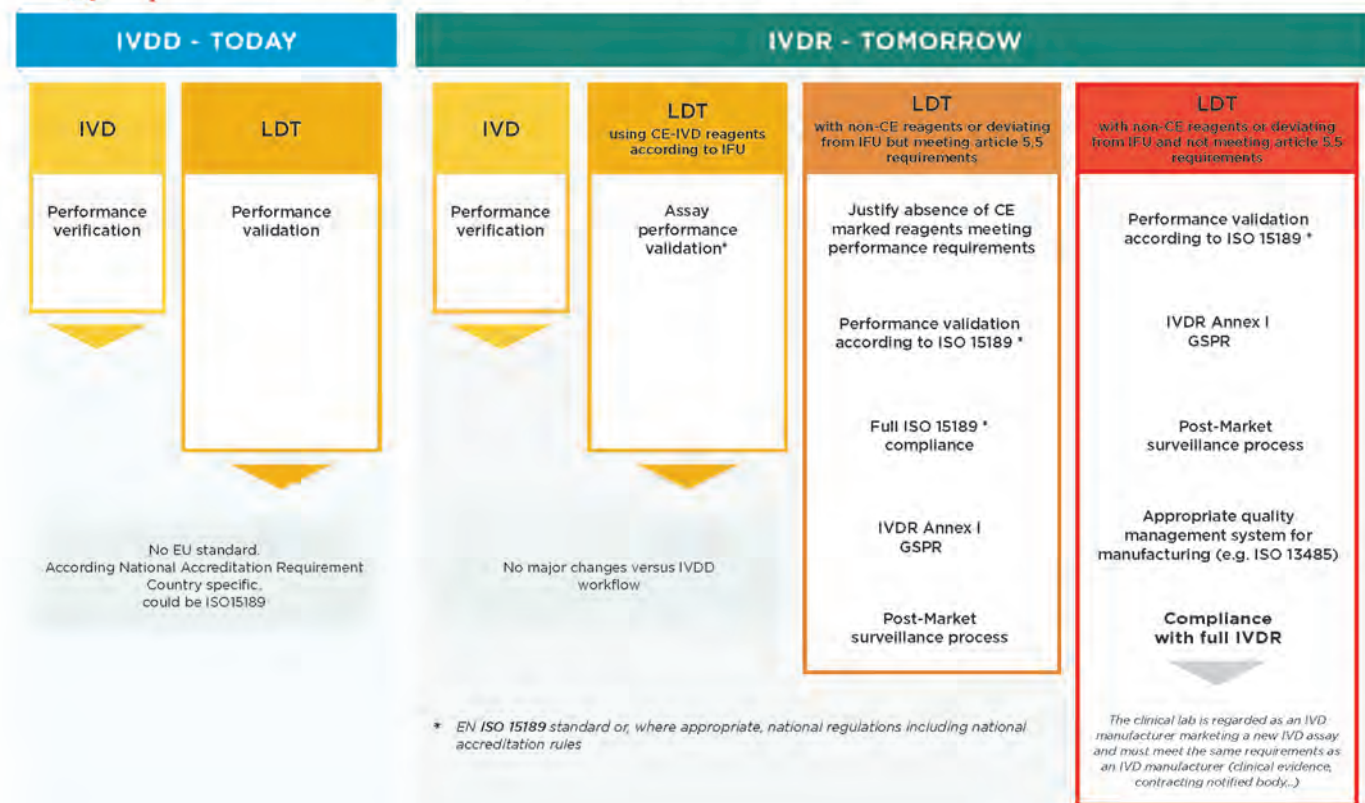
The new European In Vitro Diagnostic Regulation (EU) 2017/746 (IVDR) is replacing the EU Directive 98/79/EC (IVDD) with the date of application of 26 May 2022. With the decision to amend the transitional provisions of the IVD Regulation, transition period for different device classes have been extended to 26 May 2025 for Class D devices, 26 May 2026 for Class C and 26 May 2027 for Class B devices and Class A devices placed on the market in a sterile condition. Class A devices that are not sterile are required to comply with IVDR by 26 May 2022. Amendment to transitional provisions also provide additional transition time for most of the requirements pursuant to in-house assays

IVDR will be a major change in European regulations for commercializing in vitro diagnostic (IVD) medical devices in the European market, and for countries requiring CE mark. It includes substantial additional requirements for new IVD products as well as for the continuing commercialization of existing CE-marked portfolios.

The IVDR not only define new requirements for IVD manufacturer, it also regulates Laboratory Developed Tests conducted by individual laboratories



## Laboratory Developed Test (LDT) vs IVD Validation Workflow



Effort required to validate an assay, comparing IVDD and IVDR regulatory frameworks, as well as use of Laboratory Developed Tests (LDTs) vs IVD assays



Beckman Coulter, the stylized logo, and the Beckman Coulter product and service marks mentioned herein are trademarks or registered trademarks of Beckman Coulter, Inc. in the United States and other countries.

The following are Beckman Coulter trademarks:

Allegra	ECD	Navios
Astrios	EMnetik	NGeniuS
Avanti	EPICS	OptiClone
Beckman Coulter	Flow-Check	OptiLyse
Biomek	Flow-Clean	Optima
CellMek SPS	Flow-Count	PrepPlus
ClearLLab	Flow-Set	Q-PREP
COULTER	Gallios	Stem-Comp
COULTER CLENZ	IMMUNO-BRITE	Stem-Count
COULTER CLONE	IMMUNOPREP	Stem-Kit
COULTER COUNTER	IMMUNO-TROL	stemONE
CytExpert	IntraPrep	Stem-Trol
CytoFLEX	IOtest	SuperNova
CYTO-COMP	IsoClonic	tetraCHROME
CYTO-STAT	IsoFlow	tetraONE
CYTO-TROL	ISOTON	ThromboFix
DRAQ7	J-LITE	TQ-Prep
DURAClone	Kaluza	triCHROME
	Krome Orange	VersaLyse
	Load & Go	Vi-CELL
	MoFlo	Z Series

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Instrument Manager is a trademark of Data Innovations, Inc. Texas Red and Pacific Blue are trademarks of Molecular Probes, Inc.

AlexaFluor: This product is provided under an agreement between Molecular Probes, Inc. and Beckman Coulter and the manufacture, use, sale or import of this product may be subject to one or more of US Patent Nos. 5,696,157; 6,130,101; 5,830,912; pending applications and corresponding foreign equivalents, owned by Life Technologies Corp. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product in research conducted by the buyer (whether the buyer is an academic or for-profit entity), including use as an Analyte Specific Reagent (ASR), but excluding use in combination with microarrays or for High Content Screening. The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes. Commercial Purposes means any activity by a party for consideration and may include, but is not limited to: (1) use of the product or its components in manufacturing; (2) use of the product or its components to provide a service, information, or data; (3) use of the product or its components for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the product or its components, whether or not such product or its components are resold for use in research.

# SERVICES



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## NOTES

[illegible]

## SERVICES

## User Defined Services

**User Defined Services** from Beckman Coulter offers multiple options and technologies to choose from, based on labs' need and demand.

This services allows you to customise your antibody as well as panel combining from the large number of antibodies in the Beckman Coulter portfolio, while spending less time on manual processes.

Dependent on your needs we are offering either Custom Design Services (CDS)\* or Contract Manufacturing Services (CMS)\*\*

Under Beckman Coulter's Contract Manufacturing Services, we manufacture the components of your user defined test reagents under GMP<sup>§</sup> conditions according to your specifications.

Our Custom Design Services\* go even one step further, in that our antibody experts assist you in panel design and reagent formulation.

We can be a time- and cost-saving, single-source provider for customized products and services to support all your flow cytometry needs.



Description	Can include products not commercially available	Formulation with Beckman Coulter commercially available products
Panel Design	Design, development and optimization of panels with Beckman Coulter	Configuration, formulation and procedure to be provided by the customer
Product claims	For Research Use Only. Not for use in diagnostic procedures	No regulatory status
Formulation	Ready-to-use cocktails	EU: reagent components Outside EU: Reagent cocktail
Delivery Time (Liquid)	Typically 4-6 weeks from the signed contract	Typically 8-10 weeks from the signed contract
Delivery Time (DURA Innovations)	Typically 9 weeks from the signed contract	Typically 9 weeks from the signed contract
Minimal Volume	500 tests and 200 tests for DURA Innovations	500 tests
Formats	Available in both DURA Innovations-based dry reagents or liquid reagents	Available in both DURA Innovations-based dry reagents or liquid reagents
Presentation	In tubes or in microplates	In tubes or in microplates



\* Custom Design Services products are For Research Use Only. Not for use in diagnostic procedures.

\*\* CMS Services for DURA Innovations-based dry reagents are available only in North America. These products have no regulatory status. Customer is solely responsible for validating them.

\*\*\* CDS and CMS Services for AQUIOS instrument are only available in liquid reagents

§ GMP as defined in ISO 13485

Custom Design\* and Contract Manufacturing Services reagents for AQUIOS instrument are provided in barcoded and cap-pierceable vials.

Beckman Coulter recommends that all results be reviewed prior to release.

## SERVICES

## Custom Design Services



LUCID\* Custom Design Services (CDS) offers customer specific panels in a pre-mixed, unitized, ready-to-use format, reducing demonstrated sources of variability thus streamlining your workflow while increasing your assay consistency.

With our flexible, collaborative approach, small lot size requirements, and waste-reducing DURA Innovations-based dry reagents, we can help you do more, save more and achieve more.

If we don't currently offer the product you need, our panel design experts can create an optimized panel that clearly meets your specific criteria. Whether you need a different conjugate of one of our 630+ ASR-labeled human antibodies—or a custom conjugation of one of your own—we can provide affordable options for all your experimental design requirements:

### Liquid format:

- Single-color conjugations
- Optimized multi-conjugate combinations
- Bulk purified antibodies (you specify concentration and buffer)

### Dry format:

- Exclusive DURA Innovations dry (not lyophilized) custom reagents in tubes or in plates format
- Stable at room temperature (18°C - 23°C)
- Warrantied for 24 months
- Include the universal compensation kits



LUCID is also available in Microplate format

Now, even high-throughput flow cytometry laboratories can benefit from the advantages that dry-reagent cocktails are provided in microplates without needing to adapt their workflow to the tube formats. The microplates are available in shallow and deep well options with barcodes for easy traceability.



Custom Design Service products are for Research Use Only. Not for use in Diagnostic procedures.



## Why waste precious internal resources when you have a reliable partner for bulk production of the antibody combination you need?

RESOURCE Contract Manufacturing Services (CMS) improves efficiency by reducing the number of manual pipetting steps and QC, minimizing reagent waste, and simplifying inventory management.

### CMS options include:

- Antibodies from any source (ours, yours, or our competitors)
- Dried or liquid formats
- Exclusive DURA Innovations
- Flexible delivery terms
- QC testing on request (per your validation method and specified acceptance criteria)

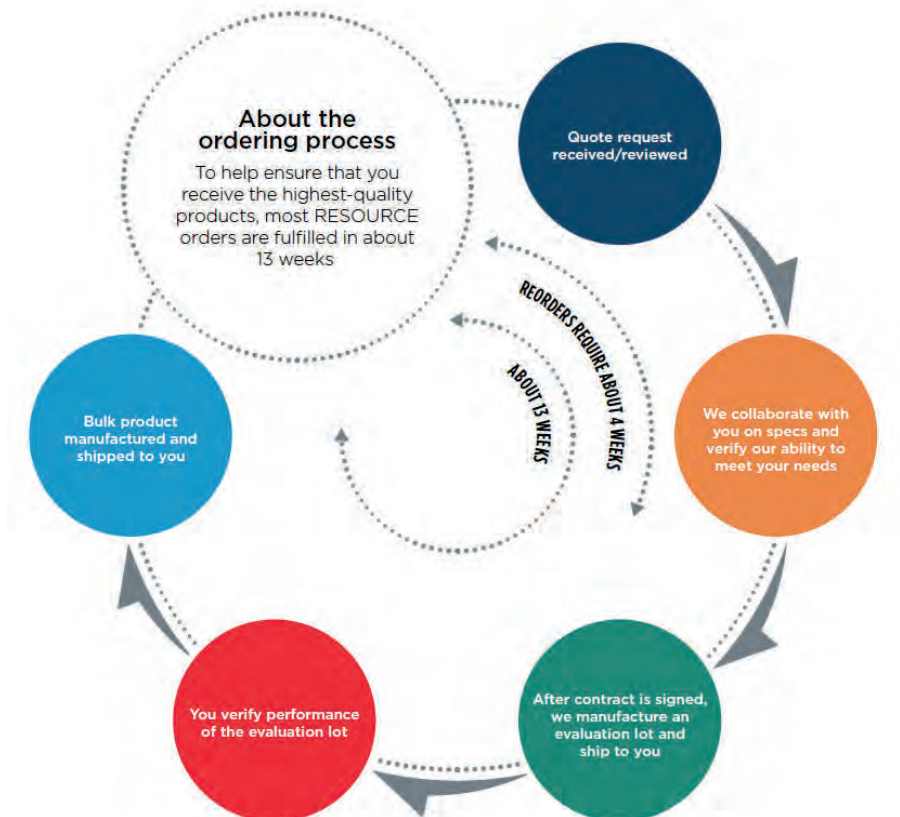
### Why choose Beckman Coulter Life Sciences as a trusted RESOURCE for bulk antibody cocktails?

- Your cocktails will be manufactured following GMP\*\* in ISO 9001-compliant facilities.
- Your order will include a complimentary evaluation lot for you to validate and approve.
- You can optimize QC by minimizing the potential for errors/variability.
- You can save time by simplifying inventory management and streamlining your workflows.

RESOURCE CMS also available in LIQUID FORMAT on our AQUIOS platform

AQUIOS CL flow cytometry users can now customize their own liquid panels through our RESOURCE Contract Manufacturing Services:

- We cocktail your user-defined test reagents under GMP conditions according to your specifications
- We provide barcoded and cap-pierceable vials that can be run on the AQUIOS CL instrument with automated tracking
- To customize your assay even more, our AQUIOS Designer Software\*\*\* supports you with your very specific requirements



\*These products have no regulatory status. Customer is solely responsible for validating them

\*\* GMP as defined GMP as defined in ISO 13485, for Dura Innovation solutions under RESOURCE - Contract Manufacturing Services

\*\*\* AQUIOS Designer Software is not available in all countries. Please contact your local Beckman Coulter representative for details.





We offer a variety of training options for our customers through the **Beckman Coulter Learning Center**.

## ONLINE CLASSES

Instrument	Training Title	Format	Location
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: COMPENSATION CREATION AND MODIFICATION	Online Class	Online Learning Center
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: ALIGNMENT VERIFICATION TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: PROTOCOL CREATION TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: TEST CREATION TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: CONTROL CREATION TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS DESIGNER SOFTWARE 2.0: STARTUP AND REAGENT CREATION TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS CL BASIC OPERATOR ONLINE TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS CL TETRA TEST APPLICATION ONLINE TRAINING	Online Class	Online Learning Center
AQUIOS CL	AQUIOS CL ADVANCED OPERATOR ONLINE TRAINING	Online Class	Online Learning Center
CytoFLEX	CytoFLEX LX BASIC OPERATOR ONLINE TRAINING - SINGLE TUBE VERSION	Online Class	Online Learning Center
CytoFLEX LX	CytoFLEX LX BASIC OPERATOR ONLINE - PLATE LOADER VERSION	Online Class	Online Learning Center

## TRAINING CENTERS EUROPE

UK, High Wycombe.

- o Products: Navios/Navios EX and AQUIOS training with an instructor.
- o Language: English.
- o Dedicated to UK, Netherlands, Sweden.

Germany, Krefeld.

- o Products: Navios/Navios EX.
- o Language: German, English.
- o Dedicated to Germany, Austria, Switzerland (German speakers), Distributors.
- o AQUIOS trainings are done on site.

France, Villepinte.

- o Products: Navios/Navios EX and AQUIOS training with an instructor.
- o Language: French. Dedicated to France, Switzerland (French speakers).

Spain, Madrid.

- o Products: Navios/Navios EX with an instructor.
- o Language: Spanish. Dedicated to Spain.

Italy, Portugal.

- o All trainings are done on site.

General:

- o All Astrios trainings, CytoFLEX trainings and Kaluza trainings are done on site.
- o FC500 training available on demand.



For full class descriptions and up-to-date listings of Customer Training opportunities, please visit: [www.beckman.com/training](http://www.beckman.com/training)



## FLOW CYTOMETER SERVICE AGREEMENT



We understand that acquiring a Flow instrument is just the beginning of your relationship with Beckman Coulter. This is why we continually invest in enhancing the critical resources needed to sustain a valuable and collaborative partnership that will **minimize instrument downtime, maximize data integrity and protect your investment to optimize for your success** throughout the entire lifetime of your instrument.

Please review the list of benefits available to our valued customers enrolled in a Service Agreement.

<b>CERTIFIED SERVICE ENGINEERS:</b>	our Beckman Coulter Engineers (BEC FSE) are <b>continuously trained on the latest instrument technology</b> and product improvements and use factory-tested and <b>certified parts</b> for all replacements.
<b>PREVENTATIVE MAINTENANCE:</b>	a Certified BEC FSE will <b>proactively schedule</b> and perform all necessary <b>inspections and part replacements to optimize laser, fluidic and mechanical performance</b> within the instrument during each year of the Agreement. This ensures you <b>minimize downtime</b> and <b>maintain the integrity of your results</b> .
<b>HEALTH CHECK:</b>	a Certified BEC FSE will <b>proactively schedule</b> a health check during each year of the Agreement to <b>confirm instrument operational effectivity</b> and perform repairs, as needed.
<b>UNLIMITED SERVICE VISITS:</b>	a Certified BEC FSE will provide unlimited service visits during the duration of the Agreement, with <b>no need to ship your instrument to a repair center</b> , reducing inconveniences and downtime.
<b>REMOTE TECHNICAL SUPPORT:</b>	Unlimited support from Beckman Coulter trained product specialists.
<b>SOFTWARE MODIFICATIONS:</b>	as our software engineering experts discover <b>instrument software enhancement</b> opportunities to increase instrument reliability, a Certified BEC FSE will proactively implement these solutions on your instrument for <b>no additional charge</b> .
<b>ENGINEERING MODIFICATIONS:</b>	when our technical engineering experts discover <b>hardware design enhancement</b> opportunities to increase instrument reliability, a Certified BEC FSE will proactively implement these solutions on your instrument for <b>no additional charge</b> .
<b>BECKMANCONNECT REMOTE CONNECTIVITY:</b>	a <b>BEC dedicated remote management and diagnostics system</b> that allows for the <b>confidential remote analysis of instrument performance</b> to allow for targeted service visits and efficient troubleshooting that maximize your instrument's uptime and minimize workflow interruptions.
<b>ADMINISTRATIVE EASE:</b>	our Agreements allow you to <b>avoid back-and-forth P.O. discussions</b> every time you need BEC support, <b>reducing unnecessary downtime</b> and <b>allowing us to be there for you when you need us</b> .

\*Please contact your local Beckman Coulter Service Rep for Agreement options & features available in your region.

Beckman Coulter's Applications Scientists offer expert support to you and your lab at all stages. From product demonstrations to new platform implementation to troubleshooting, our deep experience with flow cytometry in general and Beckman Coulter products in particular will keep you up and running.

- **Product Demonstrations:** Applications Scientists coordinate with your Sales associate to assure that you have the opportunity to experience the equipment and reagents best suited to your laboratory's needs.
- **Workflow Optimization:** Applications Scientists can offer insights into your current laboratory operations and options for improving your productivity and efficiency.



- **Implementation:** Preparation and communication are the keys to successful implementation of your new platform. Your Applications Scientist can assist you with the key components of implementation, including:
  - o Panel Design
  - o Operator Training, both on-site and at training centers where available
  - o Validation Planning
  - o Proficiency Testing, including Beckman Coulter's worldwide IQAP program



- **Applications Development:** Due to their broad experience in both basic and translational research settings, Beckman Coulter Applications Scientists have the expertise to assist in you developing novel assays.
- **Troubleshooting:** Even expert labs experience occasional issues. Your Applications Scientist is available to assist you both remotely and in person.





**BeckmanConnect** was designed to maximize instrument uptime by minimizing your wait time for urgent service/support. Firewall-friendly BeckmanConnect includes policy configurations designed to limit connections only to Beckman Coulter specialists who are trained to protect your data privacy and security. When a Beckman Coulter instrument is linked to BeckmanConnect, our highly trained service specialists can, at your request, get secure, real-time visibility to your system with a greater level of efficiency and accuracy.

### Features and Benefits



#### Efficiency

Secure workstation access & visibility  
Real-time troubleshooting & resolutions  
Seamless software upgrades, configurations & reloads  
Improved system insights for faster onsite support



#### Productivity

Increased instrument uptime  
Minimized workflow disruptions\*  
Less operator time devoted to support calls  
Reduced wait time for avoidable onsite visits



#### Security

Encrypted, permission-based communication controls  
Secure sessions with expert Beckman Coulter support experts located within your geography  
Policy configurations & customer approval required for each remote support session

### How it works

BeckmanConnect is a remote connectivity software that enhances the technical support of your Beckman Coulter systems. BeckmanConnect is a software that can be downloaded easily from our website [www.beckman.com/beckmanconnect](http://www.beckman.com/beckmanconnect), and takes 5 minutes to complete installation.

When support is needed, our service specialist can initiate remote troubleshooting through BeckmanConnect upon customer's approval.

BeckmanConnect allows remote adjustments to pressure, flow rate, and alignment allowing issues to be resolved easily over the phone. File transfer and remote viewing are available on all BeckmanConnect-eligible systems.

### Secure and confidential

BeckmanConnect enables;

- Encrypted, unidirectional (outbound) TCP connections on standard web-browsing port 443
- 2-factor connection authentication and a complex password configuration unique to each session
- Customer control that's maintained throughout each session with start-up authorization and approval prompts for each remote activity
- Remote support sessions logged locally and on secure servers for audit purposes
- Automatic client security updates and seamless software upgrades, configurations and reloads

### Learn more

Please visit [www.beckman.com/beckmanconnect](http://www.beckman.com/beckmanconnect) to review technical details on BeckmanConnect features and to fill out the registration form to download the BeckmanConnect installer

\* Data available upon request at [www.beckman.com](http://www.beckman.com)

Note: BeckmanConnect is not available in all geographies and instruments. Please contact your Beckman Coulter sales or service representative for more information on features and eligible instruments



## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# ANTIBODIES AND KITS



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## NOTES

[illegible]

# ANTIBODIES AND KITS



## Single Color Conjugated Antibodies

Specificity	SNv428	PB	KrO	SNv605	SNv786	AF 488	FITC	PE	ECD	PC5	PC 5.5	PC7	APC	AF 647	AF 700	APC A700	APC A750	Page
AP02.7																		31
CD1a																		32
CD1c																		32
CD2																		33
CD3																		34
CD4																		35
CD5																		36
CD6																		37
CD7																		37
CD8																		38
CD8β																		39
CD9																		39
CD10																		40
CD11a																		41
CD11b																		41
CD11c																		42
CD13																		43
CD14																		44
CD15																		45
CD16																		46
CD16b																		47
CD18																		47
CD19																		48
CD20																		49
CD21																		50
CD22																		50
CD23																		51
CD24																		51
CD25																		52
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CD27																		53
CD28																		54
CD29																		54
CD30																		55
CD31																		55
CD32																		56
CD33																		56
CD34																		57
CD35																		58
CD36																		58
CD37																		59
CD38																		59
CD39																		60
CD40																		60
CD41																		61

Others conjugations and purified bulk antibody available through our custom design services see page 16 - For conjugates abbreviation see Information section page 5



# ANTIBODIES AND KITS



## Single Color Conjugated Antibodies

Specificity	SNv428	PB	KrO	SNv605	SNv786	AF 488	FITC	PE	ECD	PC5	PC 5.5	PC7	APC	AF 647	AF 700	APC A700	APC A750	Page
CD42a							•											62
CD42b							•	•					•					62
CD43							•	•									•	63
CD44		•					•	•									•	63
CD45		•	•				•	•	•	•	•	•	•	•		•	•	64
CD45RA		•					•	•	•			•	•		•		•	65
CD45RO							•	•	•	•	•	•						66
CD48							•		•									66
CD49b							•											67
CD49d							•						•				•	67
CD49e							•											68
CD52												•						68
CD54							•	•										69
CD55							•	•										69
CD56	•							•	•	•	•	•	•			•	•	70
CD57		•					•											71
CD58							•	•		•			•					71
CD59							•	•										72
CD61							•	•		•	•	•						72
CD62L		•					•	•	•	•		•	•				•	73
CD62P							•	•										73
CD63							•	•										74
CD64		•					•	•	•	•		•					•	74
CD65		•					•											75
CD66b							•						•				•	75
CD66c							•	•										76
CD69								•	•	•		•	•					76
CD71	•						•	•								•	•	77
CD73								•										77
CD79a								•		•	•		•					78
CD79b								•			•		•					78
CD80							•	•				•	•				•	79
CD81		•					•	•					•					79
CD83							•	•		•								80
CD85d								•										80
CD85j								•					•					81
CD85k												•						81
CD86								•			•	•					•	82
CD90		•					•	•		•							•	82
CD94		•						•					•					83
CD95								•										83
CD99									•				•					84
CD103					•		•						•					84
CD105								•				•						85
CD106								•										85

Others conjugations and purified bulk antibody available through our custom design services see page 16 - For conjugates abbreviation see Information section page 5

# ANTIBODIES AND KITS

## Single Color Conjugated Antibodies

Specificity	SNv428	PB	KrO	SNv605	SNv786	AF 488	FITC	PE	ECD	PC5	PC 5.5	PC7	APC	AF 647	AF 700	APC A700	APC A750	Page
CD107a		•											•					86
CD109								•										86
CD116								•										87
CD117	•							•	•	•	•	•	•				•	87
CD122												•						88
CD123								•	•		•	•	•			•		88
CD126								•										89
CD127							•	•		•		•	•			•	•	89
CD133													•					90
CD134													•					90
CD135								•										91
CD137									•									91
CD138	•	•	•					•		•	•		•					92
CD141							•											92
CD144								•										93
CD146								•		•								93
CD152								•										94
CD154								•										94
CD157							•	•										95
CD158a,h								•			•	•	•					95
CD158b1/b2,j								•			•	•	•					96
CD158e1/e2								•					•					96
CD158f								•					•					97
CD158i								•					•					97
CD159a								•				•	•					98
CD160								•										98
CD161								•				•					•	99
CD166								•										99
CD180								•										100
CD183						•												100
CD184								•										101
CD196												•						101
CD197								•				•						102
CD200	•				•			•				•					•	102
CD203c								•				•						103
CD206		•						•				•						103
CD207								•										104
CD209								•										105
CD223									•									105
CD235a							•	•				•					•	106
CD243								•										106
CD244											•							107
CD274												•	•					107
CD278								•					•					108
CD279								•			•	•	•					108

Others conjugations and purified bulk antibody available through our custom design services see page 16 - For conjugates abbreviation see Information section page 5

# ANTIBODIES AND KITS

## Single Color Conjugated Antibodies

Specificity	SNv428	PB	KrO	SNv605	SNv786	AF 488	FITC	PE	ECD	PC5	PC 5.5	PC7	APC	AF 647	AF 700	APC A700	APC A750	Page
CD294							•	•										109
CD300a								•										109
CD305								•										110
CD309								•				•						110
CD314								•					•					111
CD326													•					111
CD328								•										112
CD335								•		•		•						112
CD336								•		•								113
CD337								•		•								113
CD352								•										114
CD366	•																	114
CD370													•					114
Cyclin A2							•	•										115
Cytokeratin							•											115
DAPI2								•										116
FMC7		•					•											116
FoxP3		•						•				•		•				117
Granzyme B							•											117
Helios		•																118
HIV-1 core antigen							•	•										118
HLA-ABC							•											119
HLA-DR	•	•	•		•		•	•	•	•	•	•	•				•	120
HLA-DR, DP, DQ								•										120
IFN-γ		•					•	•										121
IgD							•	•					•					121
IgM		•					•	•					•					122
IL-2							•											123
IL-4								•				•						123
IL-17A		•													•			124
κ Chain							•						•					124
Ki-67						•												125
λ Chain								•				•						125
Lactoferrin								•										126
Myeloperoxidase							•	•		•								126
NG2								•										127
NKp80								•										127
OSCAR								•										128
Perforin		•																128
ROR1								•										129
TCR PAN α/β								•		•			•					129
TCR PAN γ/δ	•						•	•		•	•	•						130
TCR Vα7.2							•											130
TCR Vα24							•	•				•						131
TCR Vβ1							•	•										131

Others conjugations and purified bulk antibody available through our custom design services see page 16 - For conjugates abbreviation see Information section page 5

# ANTIBODIES AND KITS

## Single Color Conjugated Antibodies

Specificity	SNv428	PB	KrO	SNv605	SNv786	AF 488	FITC	PE	ECD	PC5	PC 5.5	PC7	APC	AF 647	AF 700	APC A700	APC A750	Page
TCR Vβ2							•	•										132
TCR Vβ3							•											132
TCR Vβ4							•	•										133
TCR Vβ5.1							•	•										133
TCR Vβ5.2							•	•										134
TCR Vβ5.3								•										134
TCR Vβ7.1							•	•										135
TCR Vβ7.2							•	•										135
TCR Vβ8							•	•										136
TCR Vβ9								•										136
TCR Vβ11							•	•					•					137
TCR Vβ12							•	•										137
TCR Vβ13.1							•	•										138
TCR Vβ13.2								•										138
TCR Vβ13.6							•	•										139
TCR Vβ14							•	•										139
TCR Vβ16							•											140
TCR Vβ17							•	•										140
TCR Vβ18								•										141
TCR Vβ20							•	•										141
TCR Vβ21.3							•											142
TCR Vβ22							•	•										142
TCR Vβ23								•										143
TCR Vδ1												•						143
TCR Vδ2		•					•											144
TCR Vγ9							•			•								144
TCR ζ								•										145
TdT							•											145
Thrombin receptor								•										146
TIA-1								•										146
TNFα								•							•			147
ZAP-70								•										147

Others conjugations and purified bulk antibody available through our custom design services see page 16 - For conjugates abbreviation see Information section page 5



## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# ANTIBODIES AND KITS

## Single-Color Conjugated Antibodies

Beckman Coulter offers the largest portfolio of CE/IVD and ASR conjugated antibodies validated against clinical standards. We develop and manufacture reagents according to current Good Manufacturing Practices (cGMP), the highest quality standards in the industry, ensuring optimal antibody panel performance.

We offer a wide variety of antibodies for surface or intracellular staining, with more than 1,000 products available. Our antibody specificities are available in an extensive variety of clones, selected in collaboration with leading research institutions according to performances in various cellular analysis areas such as hemato-oncology, immune monitoring or stem cell studies.

Our comprehensive conjugated antibody portfolio is designed with proprietary, state-of-the-art chemistry for reduced background and maximum signal. Our tandem-dye design ensures stability, minimal spillover, and reproducible results over time. Beckman Coulter's quality control processes and manufacturing capabilities enable long-term lot-to-lot consistency.

Technical applications of clones are described in the clone index. See page 325-331

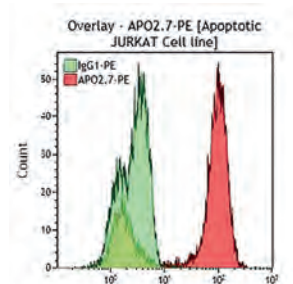
*Largest portfolio of conjugated antibodies validated against the clinical standards CE/IVD and ASR.*

*Beckman Coulter's tandem dyes stability and lot-to-lot consistency ensure reproducible and reliable results.*

*Broad portfolio of clones and dyes allows for flexible panel design.*

## APO2.7 (7A6)

The APO2.7 antigen (also named 7A6 antigen) is a 38 kDa protein localized on the membrane of mitochondria whose expression appears to be restricted to cells undergoing apoptosis. The APO2.7 antigen can be detected after apoptosis induction via CD95/Fas ligation, irradiation or drug treatment. Expression of APO2.7 appears as an early event in the apoptosis process. Normal viable cells are negative or weakly positive for APO2.7. Research studies have shown that less than 2% of peripheral T cells from normal donors expressed the APO2.7 antigen. Some level of APO2.7 expression associated with an on-going apoptotic process has been demonstrated in activated T cells.



Apoptotic Jurkat cell line.

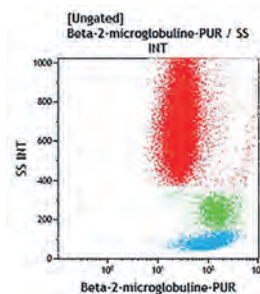
### Clone: 2.7A6A3 (IgG1 Mouse)

The APO2.7 antibody can be used for the direct quantitation of apoptotic cells by flow cytometry, after permeabilization with digitonin. Use of APO2.7 allows for precise monitoring of the early and late cellular responses during apoptosis.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2088U	ASR	IOTest	cGMP

## β2-microglobulin

The β2-microglobulin is the non-polymorphic non-covalently bound light chain (12 kDa) of the class I major histocompatibility complex (MHC-I) constitutively expressed on the surface of almost all nucleated cell. β2-microglobulin structure, stabilized by a disulfide bond, is similar to an immunoglobulin like domain. β2-microglobulin is required in the endoplasmic reticulum (ER) to associate with the MHC class I heavy molecule to form with other proteins (calreticulin, tapasin, etc.) the loading complex that exits the ER and is transported to the cell surface. After peptide presentation, β2-microglobulin is actively released into circulation.



Lysed normal whole blood sample.

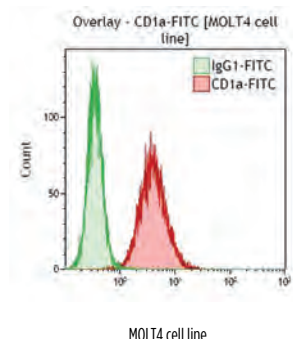
### Clone: B1G6 (IgG2a Mouse)

The B1G6 monoclonal antibody is specific for human β2-microglobulin. It does not react with β2-microglobulin from other species. It recognizes the β2-microglobulin, free or associated with human HLA class I molecules.

Form	Size	Format	Part#	Status	Line	Quality Standard
UNLB	0.2 mg	Freeze-dried	IM0114	RUO	-	cGMP

## CD1a

CD1a is a member of the lipid antigen presenting molecules family. Like the other CD1 proteins (group 1: CD1a, CD1b, CD1c and group 2: CD1d, CD1e), CD1a is a transmembrane protein of 49 kDa, noncovalently associated with  $\beta$ 2-microglobulin. As other group 1 CD1 antigens, CD1a is found on professional antigen-presenting cells (APC) such as dendritic cells, particularly on Langerhans cells and their direct circulating precursors. It is expressed by those cells related to dermal dendritic cells, derived from monocytes cultured for 6 days in the presence of GM-CSF and IL-4. The CD1a antigen is also present on a B cell subset. It is also strongly expressed by cortical thymocytes. CD1a antibodies are useful in the definition of the thymic stage of T cells.



### Clone: SFC19Thy1A8 (IgG1 Mouse)

T6 (ref 6T-CD1.7) was used as a CD1a reference monoclonal antibody during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>RD1</b>	100 tests	Liquid	<b>6603185</b>	RUO	COULTER CLONE	cGMP

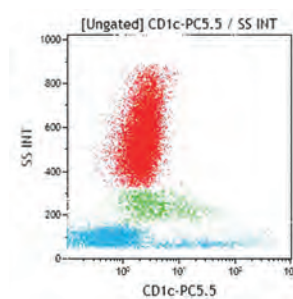
### Clone: BL6 (IgG1 Mouse)

The BL6 antibody recognizes the C epitope of the CD1a molecule. BL6 cross reacts with: Ovine, Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B25330</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07742</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM1942U</b>	ASR	IOTest	cGMP
<b>PC5</b>	1 mL	Liquid	<b>IM3610</b>	ASR	IOTest	cGMP
<b>APC</b>	1 mL	Liquid	<b>IM3645</b>	ASR	IOTest	cGMP

## CD1c

The CD1c antigen (also called BDCA-1) is a member of the CD1 family of proteins that are structurally related to MHC class I proteins. CD1c is a membrane glycoprotein with a molecular weight of 43 kDa, non-covalently associated with  $\beta$ 2-microglobulin. CD1c antigen is expressed on a major subpopulation of human myeloid dendritic cells. In blood, CD1c is also expressed on a subpopulation of CD19+ small resting B lymphocytes. Its expression has also been detected on cortical thymocytes (weakly), on Langerhans cells and on dendritic cells. CD1c+ myeloid dendritic cells have been designated as type-1 myeloid dendritic cells (MDC1s). It has been reported that CD1c is also expressed on mature T cells in a tightly regulated manner. CD1c is involved in antigen-presentation of glycolipids. It may also act in T cells as an immune regulatory molecule.



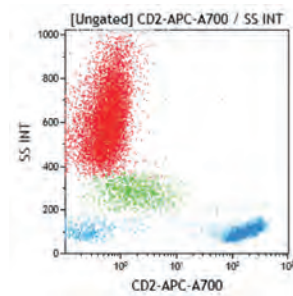
### Clone: L161 (IgG1 Mouse)

L161 cross reacts with: Ovine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PC5.5</b>	0.5 mL	Liquid	<b>B46036</b>	ASR	IOTest	cGMP

## CD2

The CD2 antigen (also called LFA-2 or T11 antigen) is a 50 kDa single chain type I transmembrane glycoprotein that comprises two external domains belonging to the immunoglobulin superfamily (IgSF). It was formerly described as the sheep red blood cell receptor, causing T-cell rosetting. Signaling molecules, such as Fyn, Lck and the PI3-kinase, have been reported to associate with the intracellular domain of CD2. CD2 has been identified as the ligand for CD58 (LFA-3). It is also a receptor for CD48, CD59 and CD15. The CD58-CD2 interaction is a component of intercellular adhesion and costimulatory signaling in T cells. CD2 is involved in the regulation of human T-cell cytokine production, and in a Fas-independent induced apoptosis of activated human peripheral T cells. CD2 is present on all human non-B peripheral lymphocytes, on the majority of thymic T cells, and on a subset of thymic B cells.



Lysed normal whole blood sample.

### Clone: SFC13Pt2H9 (IgG1 Mouse)

SFC13Pt2H9 inhibits sheep erythrocyte rosette formation. It has been used as a CD2 reference monoclonal antibody during HLDA 6 (ref.6T-CD2.6). SFC13Pt2H9 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Freeze-dried	<b>6602389</b>	IVD	COULTER CLONE	98/79/EC
<b>FITC</b>	50 tests	Liquid	<b>6603863</b>	IVD	CYTO-STAT	98/79/EC
<b>RD1</b>	100 tests	Liquid	<b>6602868</b>	IVD	COULTER CLONE	98/79/EC
<b>RD1</b>	50 tests	Liquid	<b>6603849</b>	IVD	CYTO-STAT	cGMP

### Clone: 39C1.5 (IgG2a Rat)

39C1.5 inhibits sheep erythrocyte rosette formation. It has been used as a CD2 reference monoclonal antibody during HLDA 6 (ref 6T-CD2.7). 39C1.5 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey and Equine.

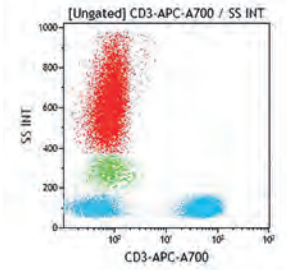
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B09685</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>A07743</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0442U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07744</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM0443U</b>	ASR	IOTest	cGMP
<b>ECD</b>	0.5 mL	Liquid	<b>B46023</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>A07745</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM2634U</b>	ASR	IOTest	cGMP
<b>PC7</b>	100 tests	Liquid	<b>A21689</b>	CE/IVD	IOTest	IVDR
<b>PC7</b>	1 mL	Liquid	<b>A51074</b>	ASR	IOTest	cGMP
<b>APC</b>	100 tests	Liquid	<b>B49210</b>	CE/IVD	IOTest	IVDR
<b>APC</b>	1 mL	Liquid	<b>A60794</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	0.5 mL	Liquid	<b>B12111</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B01681</b>	ASR	IOTest	cGMP



## CD3

CD3 $\zeta$  see TCR $\zeta$

The CD3 antigen is a complex of 5 invariable polypeptidic chains:  $\gamma$ ,  $\delta$ ,  $\epsilon$ ,  $\zeta$  and  $\eta$ , whose molecular weights are respectively 25-28, 21, 20, 16 and 22 kDa. The CD3 chains are clustered in a group of two invariant dimers,  $\gamma/\epsilon$  and  $\delta/\epsilon$  associated with a variable dimer which consists of  $\zeta$  homodimers, or  $\zeta/\eta$ , or  $\zeta/\gamma$  FcR heterodimers ( $\gamma$  FcR being the  $\gamma$  chain of the Fc receptors), or  $\gamma$  FcR homodimers. The CD3 is part of a bigger complex which includes the T Cell Receptor (TCR). CD3 complex associated with the TCR is involved in the recognition of peptides bound to the major histocompatibility complex class I and II during the immune response. T cell activation may be induced when a foreign antigen is presented to the TCR through MHC complex. The CD3 antigen is expressed by mature T lymphocytes and by a subset of thymocytes.



Lysed normal whole blood sample.

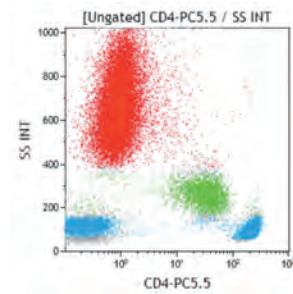
### Clone: UCHT1 (IgG1 Mouse)

UCHT1 reacts with the  $\epsilon$ -chain of the CD3 complex. It was used as a CD3 reference mAb (ref.6T-CD3.1) during HLDA 6. After permeabilization with saponin-based permeabilization reagent IntraPrep, it may be used to detect intracytoplasmic CD3 by flow cytometry.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C76795</b>	RUO	IOTest	cGMP	<b>NEW</b>
<b>PB</b>	50 tests	Liquid	<b>B49204</b>	CE/IVD	IOTest	IVDR	
<b>PB</b>	0.5 mL	Liquid	<b>A93687</b>	ASR	IOTest	cGMP	
<b>KrO</b>	0.5 mL	Liquid	<b>B00068</b>	ASR	IOTest	cGMP	
<b>FITC</b>	50 tests	Liquid	<b>6604623</b>	IVD	CYTO-STAT	cGMP	
<b>FITC</b>	100 tests	Freeze-dried	<b>6604625</b>	IVD	COULTER CLONE	98/79/EC	
<b>FITC</b>	100 tests	Liquid	<b>A07746</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM1281U</b>	ASR	IOTest	cGMP	
<b>PE</b>	100 tests	Liquid	<b>A07747</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>IM1282U</b>	ASR	IOTest	cGMP	
<b>RD1</b>	50 tests	Liquid	<b>6604621</b>	IVD	CYTO-STAT	98/79/EC	
<b>RD1</b>	100 tests	Liquid	<b>6604627</b>	IVD	COULTER CLONE	98/79/EC	
<b>ECD</b>	100 tests	Liquid	<b>A07748</b>	CE/IVD	IOTest	IVDR	
<b>ECD</b>	1 mL	Liquid	<b>IM2705U</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A07749</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	0.5 mL	Liquid	<b>6607010</b>	ASR	CYTO-STAT	cGMP	
<b>PC5</b>	1 mL	Liquid	<b>IM2635U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	50 tests	Liquid	<b>B49203</b>	CE/IVD	IOTest	IVDR	
<b>PC5.5</b>	0.5 mL	Liquid	<b>A66327</b>	ASR	IOTest	cGMP	
<b>PC7</b>	100 tests	Liquid	<b>6607100</b>	RUO	IOTest	cGMP	
<b>PC7</b>	100 tests	Liquid	<b>737657</b>	CE/IVD	IOTest	98/79/EC* pending IVDR certification	
<b>APC</b>	100 tests	Liquid	<b>IM2467</b>	CE/IVD	IOTest	IVDR	
<b>APC</b>	1 mL	Liquid	<b>IM2467U</b>	ASR	IOTest	cGMP	
<b>APC-A700</b>	0.5 mL	Liquid	<b>B10823</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	50 tests	Liquid	<b>A94680</b>	CE/IVD	IOTest	IVDR	
<b>APC-A750</b>	0.5 mL	Liquid	<b>A66329</b>	ASR	IOTest	cGMP	
<b>UNLB</b>	2 mL	Liquid	<b>IM1280</b>	ASR	-	cGMP	
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM1304</b>	ASR	-	cGMP	

## CD4

The CD4 antigen is a monomeric transmembrane glycoprotein with a molecular weight of 59 kDa. The intracytoplasmic tail of CD4 is essential for interaction with Lck. The CD4 is expressed on the T "helper" (Th or T4) lymphocytes. It is expressed on most thymocytes, where it is frequently co-expressed with CD8. CD4 is also expressed on eosinophils. All the monocytes carry the CD4 antigen, but at a lower density than T4 lymphocytes. CD4 acts as an accessory molecule to the T cell receptor complex during T-cell activation restricted to the major histocompatibility complex class II. The T4 lymphocytes are involved in T-T, T-B, and B-macrophage cellular interactions. They are active in inducing and helping the synthesis of immunoglobulins by B cells. CD4 functions as the receptor for IL-16 which is a chemoattractant factor for CD4+ T cells, as well as for monocytes and eosinophils. IL-16 seems to be a growth factor for T4 lymphocytes, but is not able to induce cell division. CD4 is a receptor for the Human Immunodeficiency Virus type I (HIV-1) envelope protein gp120.



Lysed normal whole blood sample.

### Clone: 13B8.2 (IgG1 Mouse)

13B8.2 monoclonal antibody antagonizes HIV effects *in vitro*. 13B8.2 recognizes an epitope close to the amino-acid residues 88-89 within the CD4 molecule. 13B8.2 cross reacts with: Hamadryas Baboon, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B49197	CE/IVD	IOTest	IVDR
PB	0.5 mL	Liquid	A82789	ASR	IOTest	cGMP
KrO	0.5 mL	Liquid	A96417	ASR	IOTest	cGMP
FITC	100 tests	Liquid	A07750	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM0448U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07751	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM0449U	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07752	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2636U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B16491	ASR	IOTest	cGMP
APC	100 tests	Liquid	IM2468	CE/IVD	IOTest	IVDR
APC	1 mL	Liquid	IM2468U	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	B10824	ASR	IOTest	cGMP
APC-A750	50 tests	Liquid	A94682	CE/IVD	IOTest	IVDR
APC-A750	0.5 mL	Liquid	A94685	ASR	IOTest	cGMP
Biotin	0.2 mg	Freeze-dried	IM0704	ASR	-	cGMP
UNLB	0.2 mg	Freeze-dried	IM0398	ASR	-	cGMP

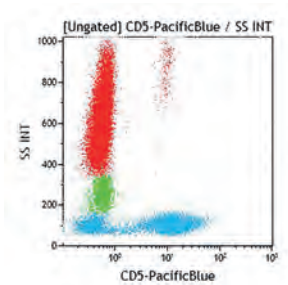
### Clone: SFC112T4D11 (IgG1 Mouse)

SFC112T4D11 monoclonal antibody antagonizes HIV effects *in vitro*. SFC112T4D11 cross reacts with: Hamadryas Baboon, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Freeze-dried	6602393	IVD	COULTER CLONE	98/79/EC
FITC	50 tests	Liquid	6603862	IVD	CYTO-STAT	98/79/EC
RD1	100 tests	Liquid	6602864	IVD	COULTER CLONE	98/79/EC
RD1	50 tests	Liquid	6603850	IVD	CYTO-STAT	98/79/EC
ECD	0.5 mL	Liquid	6604727	ASR	CYTO-STAT	cGMP
PC7	100 tests	Liquid	6607101	RUO	IOTest	cGMP
PC7	100 tests	Liquid	737660	CE/IVD	IOTest	98/79/EC* pending IVDR certification

## CD5

CD5 is a type I transmembrane glycoprotein with a molecular weight of 67 kDa. The extracellular domain consists of 3 scavenger receptor cysteine-rich (SRCR) domains of nearly 100 amino acids each. The CD5 is expressed at the surface of mature T lymphocytes, by most of thymocytes and by a subpopulation of B lymphocytes (B-1a) expanded in neonatal life, several autoimmune disorders and some B-cell proliferative disorders (B-CLL). It is not found on granulocytes, monocytes and platelets. The CD5 antigen is the ligand for the B-lymphocytes cell-surface protein CD72. The CD5 / CD72 interactions are involved in the regulation of T and B lymphocyte activation and proliferation. B lymphocytes can be divided into B-1 lymphocytes and B-2 (or conventional B) lymphocytes based on different localization, functional characteristics and gene expression. The B-1 lymphocyte subset is divided into B-1a and B-1b subpopulations, which do or do not express the CD5 antigen respectively. The B-1a CD5+ B lymphocyte subset expresses immunoglobulin with inherent low affinities for self-antigens.



Lysed normal whole blood sample.

### Clone: BL1a (IgG2a Mouse)

BL1a monoclonal antibody (ref. 6T-CD5.5) was used as a CD5 reference monoclonal antibody during HLDA 6. BL1a cross reacts with: Bovine, Equine.

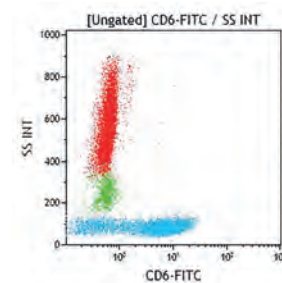
Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	A82790	ASR	IOTest	cGMP
FITC	100 tests	Liquid	A08932	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM0468U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07753	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM0469U	ASR	IOTest	cGMP
ECD	1 mL	Liquid	A33096	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07754	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2637U	ASR	IOTest	cGMP
PC5.5	50 tests	Liquid	B49191	CE/IVD	IOTest	IVDR
PC5.5	0.5 mL	Liquid	A70203	ASR	IOTest	cGMP
PC7	100 tests	Liquid	A21690	CE/IVD	IOTest	IVDR
PC7	1 mL	Liquid	A51075	ASR	IOTest	cGMP
APC	1 mL	Liquid	A60790	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	A78835	ASR	IOTest	cGMP
APC-A750	50 tests	Liquid	B92413	CE/IVD	IOTest	IVDR
APC-A750	0.5 mL	Liquid	A78836	ASR	IOTest	cGMP

### Clone: CLB-T1/1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C76798	RUO	IOTest	cGMP	NEW
ECD	0.5 mL	Liquid	B55387	ASR	IOTest	cGMP	
APC	0.5 mL	Liquid	B55386	ASR	IOTest	cGMP	

## CD6

The CD6 antigen is a single-chain type I transmembrane glycoprotein with three extracellular SRCR domains. It exists predominantly in two isoforms as 100 kDa and 130 kDa. CD6 is an extensively glycosylated molecule and differences in glycosylation patterns may occur. The CD6 molecule is modified by phosphorylation of serine, threonine and tyrosine residues during T-cell activation. CD6 have a role as a costimulatory molecule for T-cell activation and in cell adhesion. CD166 was identified as an adhesion receptor for CD6. The CD6 antigen is expressed on the surface of most mature human T cells and a subset of resting B cells and medullary thymocytes. It is found on NK cells not it is reported to be on any other cells.



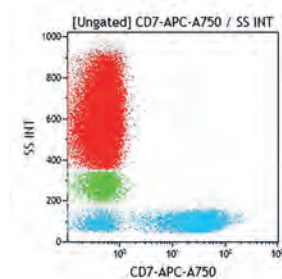
Lysed normal whole blood sample.

Clone: 2H46D3B (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B16492</b>	ASR	IOTest	cGMP

## CD7

The CD7 antigen is a membrane-embedded glycoprotein with a molecular weight of 40 kDa. It is expressed at an early stage of T lineage ontogeny, during the extrathymic prothymocytic formation. CD7 expression persists throughout T lymphocytes differentiation defining CD7 as a pan-T marker. It is also expressed on thymocytes, on the majority of resting T lymphocytes, and Natural Killer cells (NK), and on a subset of pre-B lymphocytes and B lymphocytes from foetal bone marrow. CD7 expression is also detected on pluripotent hematopoietic stem cells. Mature B-lymphocytes, cells from erythroid, myeloid and megacaryocytic lineage do not express the CD7 molecule. The CD7 molecule is involved in T lymphocytes activation. Its expression may be quantitatively up-regulated on stimulated T lymphocytes.



Lysed normal whole blood sample.

Clone: 3A1E-12H7 (IgG2b Mouse)

3A1E-12H7 (ref. 6T-CD7.4) was used as a CD7 reference monoclonal antibody during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	0.5 mL	Liquid	<b>6603824</b>	ASR	CYTO-STAT	cGMP
<b>RD1</b>	0.5 mL	Liquid	<b>6603822</b>	ASR	CYTO-STAT	cGMP
<b>RD1</b>	0.5 mL	Liquid	<b>6603827</b>	ASR	COULTER CLONE	cGMP

Clone: 8H8.1 (IgG2a Mouse)

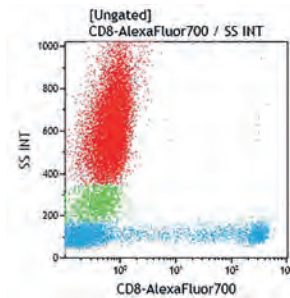
8H8.1 cross reacts with: Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B06499</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>A07755</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0585U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1429U</b>	ASR	IOTest	cGMP
<b>ECD</b>	1 mL	Liquid	<b>A70202</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>IM3613</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM3613U</b>	ASR	IOTest	cGMP
<b>PC7</b>	100 tests	Liquid	<b>B49183</b>	CE/IVD	IOTest	IVDR
<b>PC7</b>	1 mL	Liquid	<b>A46526</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A97050</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	50 tests	Liquid	<b>B36290</b>	CE/IVD	IOTest	IVDR
<b>APC-A700</b>	0.5 mL	Liquid	<b>A70201</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B16892</b>	ASR	IOTest	cGMP



## CD8

The CD8 antigen is a disulfide-linked dimer, which exists either as a CD8 $\alpha$  homodimer or as a CD8 $\alpha$ / $\beta$  heterodimer. CD8 $\alpha$  is required for surface expression of CD8 $\beta$ . The molecular weight of each monomer of  $\alpha$  or  $\beta$  is approximately 32-34 kDa. CD8 binds to a non-polymorphic domain ( $\alpha$ 3 domain) of MHC Class I molecules. CD8 is expressed on a subset of human peripheral blood T lymphocytes. A subset of NK cells possess the CD8 antigen but show low to medium density of expression. CD8 $\alpha$  homodimer is expressed by NK cells and  $\gamma/\delta^+$  T cells. CD8 is also present on most thymocytes where it is frequently co-expressed with CD4, and on a subpopulation of bone marrow cells. The CD8 molecule acts with the T Cell Receptor (TCR) as a coreceptor for MHC class I restricted antigen recognition. CD8 is widely used as a marker of cytotoxic T lymphocytes.



Lysed normal whole blood sample.

### Clone: B9.11 (IgG1 Mouse)

The B9.11 monoclonal antibody recognizes the  $\alpha$  chain of the CD8 molecule. It was used as a CD8 reference monoclonal antibody during HLDA 6 (ref. 6T-CD8.5).

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B49182	CE/IVD	IOTest	IVDR
PB	0.5 mL	Liquid	A82791	ASR	IOTest	cGMP
KrO	0.5 mL	Liquid	B00067	ASR	IOTest	cGMP
FITC	100 tests	Liquid	A07756	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM0451U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07757	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM0452U	ASR	IOTest	cGMP
ECD	0.5 mL	Liquid	B08467	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07758	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2638U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B21205	ASR	IOTest	cGMP
APC	100 tests	Liquid	IM2469	CE/IVD	IOTest	IVDR
APC	1 mL	Liquid	IM2469U	ASR	IOTest	cGMP
APC-A700	50 tests	Liquid	B49181	CE/IVD	IOTest	IVDR
APC-A700	0.5 mL	Liquid	A66332	ASR	IOTest	cGMP
AF700	0.5 mL	Liquid	B76279	ASR	IOTest	cGMP
APC-A750	50 tests	Liquid	A94683	CE/IVD	IOTest	IVDR
APC-A750	0.5 mL	Liquid	A94686	ASR	IOTest	cGMP

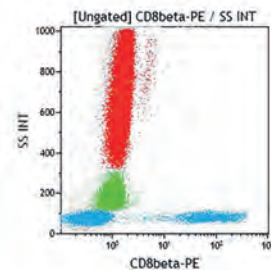
### Clone: SFC121Thy2D3 (IgG1 Mouse)

SFC121Thy2D3 monoclonal antibody recognizes the  $\alpha$  chain of the CD8 molecule. SFC121Thy2D3 cross reacts with: Common Marmoset.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Freeze-dried	6602385	IVD	COULTER CLONE	98/79/EC
FITC	50 tests	Liquid	6603861	IVD	CYTO-STAT	cGMP
RD1	100 tests	Liquid	6603274	IVD	COULTER CLONE	98/79/EC
RD1	50 tests	Liquid	6603848	IVD	CYTO-STAT	cGMP
ECD	50 tests	Liquid	737659	CE/IVD	CYTO-STAT	98/79/EC* pending IVDR certification
ECD	0.5 mL	Liquid	6604728	ASR	CYTO-STAT	cGMP
PC5	0.5 mL	Liquid	6607011	ASR	CYTO-STAT	cGMP
PC5.5	0.5 mL	Liquid	A99019	ASR	IOTest	cGMP
PC7	100 tests	Liquid	6607102	RUO	IOTest	cGMP
PC7	100 tests	Liquid	737661	CE/IVD	IOTest	98/79/EC* pending IVDR certification
APC	0.5 mL	Liquid	A99023	ASR	IOTest	cGMP

## CD8β

Along with CD8α, the CD8β polypeptide molecule is one of the two chains which can be expressed within the CD8 dimer. CD8α is required for surface expression of CD8β. The α and β glycoproteins have similar molecular weights of 32-34 kDa each. They form homodimeric (CD8α/α) or heterodimeric (CD8α/β) cell surface complexes. Most of human peripheral T cells express CD8 as an α/β heterodimer. NK cells and a proportion of TCR γ/δ T cells express CD8 as an α/α homodimer. CD8 β surface expression requires the surface expression of CD8α. Consequently, CD8α can form homodimer but CD8β cannot.



Lysed normal whole blood sample.

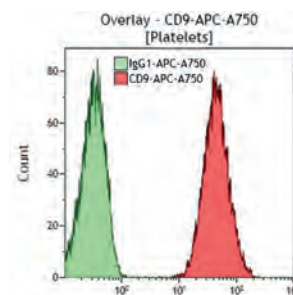
### Clone: 2ST8.5H7 (IgG2a Mouse)

The 2ST8.5H7 monoclonal antibody reacts with an epitope formed by the combination of the α and β polypeptides.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2217U	ASR	IOTest	cGMP
ECD	100 tests	Liquid	6607123	RUO	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM2014	RUO	-	cGMP

## CD9

CD9 (p24 antigen) is a single transmembrane polypeptide of 24 kDa related to the tetraspanin (TM4) family. Like other tetraspanins (e.g. CD63, CD81, CD82, CD37, CD53, among the 20 known members), CD9 structure is composed of 4 transmembrane domains, with intracellular N and C termini. First discovered on a lymphoblastic cell line of pre-B phenotype, CD9 was then found on platelets and within their α-granules, on monocytes, pre-B cells, eosinophils, basophils and activated T cells. The CD9 molecule associates with other surface proteins such as the α6/β4 integrin (CD49f/CD104 molecule) and HLA-DR, suggesting a role in adhesion, signal transduction and cell motility.



Platelet-rich plasma (PRP) from normal whole blood.

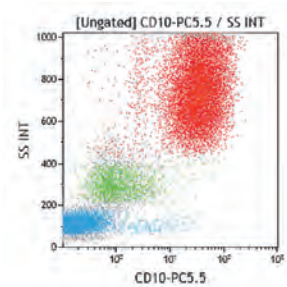
### Clone: ALB6 (IgG1 Mouse)

The ALB6 monoclonal antibody (mAb) was first reported as specific for CD9 (p24) on platelets, capable of modulating aggregation of platelets activated with various agonists.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B09979	ASR	IOTest	cGMP
FITC	2 mL	Liquid	IM1755U	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B13649	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM0117	RUO	-	cGMP

## CD10

The CD10 antigen is referred to as the Common Acute Lymphoblastic Leukemia Antigen (CALLA). It is a type II integral membrane protein of 100 kDa, identified as the human membrane-associated neutral endopeptidase (EC3.4.24.11). It is expressed on uncommitted lymphoid precursors. CD10 expression is lost as cells enter the T lineage. In the B lineage, CD10 expression is lost later in ontogeny, as cells acquire surface Ig expression. It is also expressed on activated and proliferating B cells in the germinal center, and on neutrophils as well as on bone marrow stromal cells. It is also expressed on a number of other cells of epithelial origin.



Lysed normal whole blood sample.

### Clone: J5 (IgG2a Mouse)

J5 cross reacts with: Bovine, Ovine, Equine, Mink, Guinea Pig.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	0.5 mg	Freeze-dried	<b>6602463</b>	ASR	COULTER CLONE	cGMP
<b>FITC</b>	0.5 mL	Liquid	<b>6604107</b>	ASR	CYTO-STAT	cGMP
<b>RD1</b>	0.5 mL	Liquid	<b>6603475</b>	ASR	COULTER CLONE	cGMP
<b>RD1</b>	0.5 mL	Liquid	<b>6604120</b>	ASR	CYTO-STAT	cGMP

### Clone: ALB1 (IgG1 Mouse)

ALB1 cross reacts with: Bovine, Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>A07759</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM2720U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07760</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM1915U</b>	ASR	IOTest	cGMP
<b>ECD</b>	1 mL	Liquid	<b>IM3608U</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>A07761</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM2721U</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B16490</b>	ASR	IOTest	cGMP
<b>PC7</b>	100 tests	Liquid	<b>B96750</b>	CE/IVD	IOTest	IVDR
<b>PC7</b>	1 mL	Liquid	<b>A46527</b>	ASR	IOTest	cGMP
<b>APC</b>	100 tests	Liquid	<b>B92400</b>	CE/IVD	IOTest	IVDR
<b>APC</b>	1 mL	Liquid	<b>IM3633</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	50 tests	Liquid	<b>B49223</b>	CE/IVD	IOTest	IVDR
<b>APC-A700</b>	0.5 mL	Liquid	<b>A86353</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>A89310</b>	ASR	IOTest	cGMP

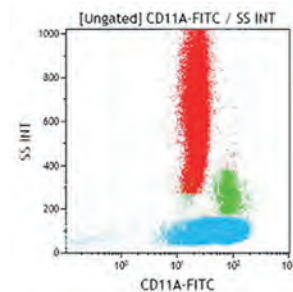
### Clone: ALB2 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>SNv428</b>	50 tests	Liquid	<b>C76807</b>	RUO	IOTest	cGMP
<b>FITC</b>	2 mL	Liquid	<b>IM0471U</b>	ASR	IOTest	cGMP

available Q2

## CD11a

CD11a ( $\alpha$ L integrin, LFA-1  $\alpha$  chain) is a member of the integrin family. Like some other leucocyte integrins (CD11b, CD11c, CD11d), CD11a is non-covalently associated with the  $\beta$ 2 integrin subunit CD18. CD11a is a transmembrane glycoprotein of 170 kDa, mainly expressed by leucocytes including monocytes, macrophages, neutrophils, eosinophils, basophils, B and T lymphocytes. Activated platelets also express CD11a and CD18. LFA-1 (CD11a/CD18) promotes homotypic adhesion between lymphoid cells and heterotypic adhesion of leucocytes to the vascular endothelium. LFA-1's known ligands are Intercellular Adhesion Molecules (ICAM): ICAM-1 (CD54), ICAM-2 (CD102) and ICAM-3 (CD50).



Lysed normal whole blood sample.

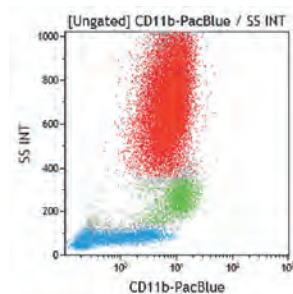
### Clone: 25.3 (IgG1 Mouse)

25.3 cross reacts with: Equine, Feline, Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0860U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1433U</b>	ASR	IOTest	cGMP

## CD11b

The CD11b antigen is also known as the integrin  $\alpha$ M subunit. It combines with the CD18 antigen (integrin  $\beta$ 2 subunit) to build the integrin Mac-1 (CD11b/CD18,  $\alpha$ M $\beta$ 2, CR3, iC3bR, Mo-1). CD11b is a type I transmembrane glycoprotein of 170 or 165 kDa under reducing or non-reducing conditions, respectively. CD11b shows 19 potential N-glycosylation sites. Expression of the CD11b chain on the cell surface requires the presence of the CD18 antigen (also known as  $\beta$ 2 integrin chain). Together, these two subunits create the CD11b/CD18 integrin, one of the four integrin heterodimers that can be built by the association of CD18  $\beta$  chain with four distinctive CD11  $\alpha$  chains. CD11b/CD18 is highly expressed on NK Cells, neutrophils, monocytes and macrophages.



Lysed normal whole blood sample.

### Clone: 94 (IgM Mouse)

94 cross reacts with: Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	0.5 mg	Freeze-dried	<b>6602573</b>	ASR	COULTER CLONE	cGMP

### Clone: Bear1 (IgG1 Mouse)

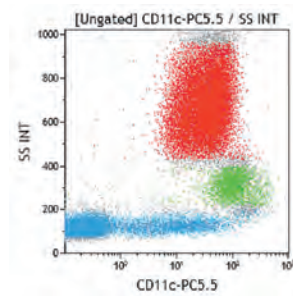
Bear1 is a non blocking monoclonal antibody. Bear1 cross reacts with: Ovine, Equine, Canine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	50 tests	Liquid	<b>B36296</b>	CE/IVD	IOTest	IVDR
<b>PB</b>	0.5 mL	Liquid	<b>B16891</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>IM0530</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0530U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM2581U</b>	ASR	IOTest	cGMP
<b>PC5</b>	1 mL	Liquid	<b>IM3611</b>	ASR	IOTest	cGMP
<b>PC7</b>	1 mL	Liquid	<b>A54822</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A87782</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	50 tests	Liquid	<b>B36295</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	0.5 mL	Liquid	<b>A97052</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0190</b>	ASR	-	cGMP



## CD11c

CD11c (integrin  $\alpha$ X subunit, also known as leucocyte surface antigen p150, Axb2 and CR4) is a member of the integrin family. Like other leucocyte integrins (CD11a, CD11b, CD11d), CD11c is non-covalently associated with the  $\beta$ 2 integrin subunit (CD18). CD11c is a transmembrane glycoprotein of 145-150 kDa, mainly expressed by monocytes, macrophages and NK cells, and to a lesser extent by granulocytes, dendritic cells and some subsets of T and B cells. CD11c / CD18 has an important role in cytotoxic T cell killing, in the adhesion of monocytes and neutrophils to the endothelium and induces cellular activation. The CD11c is ~87% homologous in sequence to CD11b, and recognizes similar ligands including complement factor fragment iC3b, fibrinogen, CD54 and bacterial lipopolysaccharide.



Lysed normal whole blood sample.

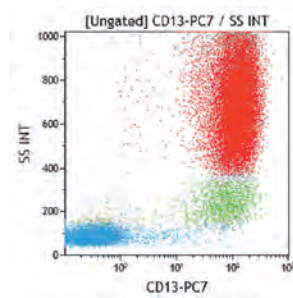
### Clone: BU15 (IgG1 Mouse)

The BU15 antibody was used as a CD11c reference mAb (ref.6) during HLDA 6. BU15 cross reacts with: Canine.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM1760	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1760U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM3707	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B19719	ASR	IOTest	cGMP
PC7	100 tests	Liquid	B96763	CE/IVD	IOTest	IVDR
PC7	1 mL	Liquid	A80249	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B01680	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	B43304	ASR	IOTest	cGMP

## CD13

The CD13 antigen is a transmembrane glycoprotein with a large extracellular region and a small intracellular NH<sub>2</sub>-terminal tail. It has a molecular weight of 150 kDa and is expressed on the cell surface as a non-covalently linked homodimer. It is found on most cells of myeloid origin including neutrophils, eosinophils, basophils and monocytes from normal peripheral blood. It is absent from B and T lymphocytes as well as from red blood cells and platelets. This molecule is found on the surface of committed progenitor cells defined as the Granulocyte-Monocyte Colony Forming Units (CFU-GM) in normal bone marrow. There are up to five subpopulations of CD13 molecules possessing different levels of glycosylation, which may explain the different binding patterns of various CD13 antibodies.



Lysed normal whole blood sample.

## Clone: 366 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
RD1	0.5 mL	Liquid	6602989	ASR	COULTER CLONE	cGMP
PC7	0.5 mL	Liquid	B19714	ASR	IOTest	cGMP

## Clone: SJ1D1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	2 mL	Liquid	IM0778U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07762	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1427U	ASR	IOTest	cGMP
ECD	0.5 mL	Liquid	B24026	ASR	IOTest	cGMP

## Clone: Immu103.44 (IgG1 Mouse)

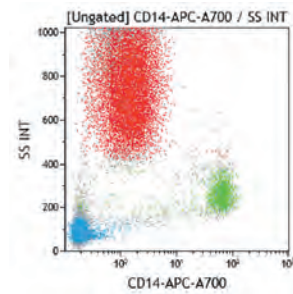
Immu103.44 cross reacts with: Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
SNv428	50 tests	Liquid	C76804	RUO	IOTest	cGMP
ECD	100 tests	Liquid	B36286	CE/IVD	IOTest	IVDR
ECD	1 mL	Liquid	A33097	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07763	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2639U	ASR	IOTest	cGMP
PC5.5	50 tests	Liquid	B49196	CE/IVD	IOTest	IVDR
PC5.5	0.5 mL	Liquid	A79389	ASR	IOTest	cGMP
PC7	1 mL	Liquid	A46528	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A87783	ASR	IOTest	cGMP

available Q2

## CD14

The CD14 antigen is a glycosyl-phosphatidylinositol-linked single-chain surface membrane glycoprotein with a molecular weight of 53-55 kDa. It functions as a high affinity receptor for the complex of LipoPolySaccharide (LPS) and the LPS-Binding Protein (LBP). It is found on cells of myelomonocytic lineage. CD14 antigen is strongly expressed on monocytes, macrophages, and weakly on neutrophils. It is also weakly expressed on B lymphocytes, but is absent from T lymphocytes, NK cells, red blood cells and platelets. It is found on Langerhans cells, follicular dendritic cells and histiocytes.



Lysed normal whole blood sample.

## Clone: 116 (IgM Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	50 tests	Liquid	<b>6604114</b>	IVD	CYTO-STAT	98/79/EC
<b>RD1</b>	50 tests	Liquid	<b>6604500</b>	IVD	CYTO-STAT	98/79/EC

## Clone: 322A-1 (IgG2b Mouse)

322A-1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Capuchin Monkey, Squirrel Monkey.

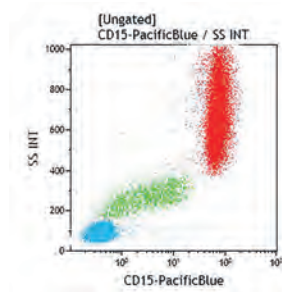
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Freeze-dried	<b>6603511</b>	IVD	COULTER CLONE	98/79/EC
<b>FITC</b>	50 tests	Liquid	<b>6604110</b>	IVD	CYTO-STAT	98/79/EC
<b>RD1</b>	100 tests	Liquid	<b>6603262</b>	IVD	COULTER CLONE	98/79/EC

## Clone: RMO52 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B00846</b>	ASR	IOTest	cGMP
<b>KrO</b>	0.5 mL	Liquid	<b>B01175</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>B36297</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0645U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07764</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM0650U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>B92391</b>	CE/IVD	IOTest	IVDR
<b>ECD</b>	1 mL	Liquid	<b>IM2707U</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>A07765</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM2640U</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>A70204</b>	ASR	IOTest	cGMP
<b>PC7</b>	1 mL	Liquid	<b>A22331</b>	ASR	IOTest	cGMP
<b>APC</b>	100 tests	Liquid	<b>IM2580</b>	CE/IVD	IOTest	IVDR
<b>APC</b>	1 mL	Liquid	<b>IM2580U</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	0.5 mL	Liquid	<b>A99020</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	50 tests	Liquid	<b>B92421</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	0.5 mL	Liquid	<b>A86052</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0643</b>	ASR	-	cGMP

## CD15

The CD15 antigen (Lewis x or Le<sup>x</sup>) is the lacto-N-(neo) fucopentaose III molecule. This carbohydrate epitope is carried by both glycolipids and glycoproteins expressed on the cell membrane. CD15 antigen is strongly expressed by neutrophils, eosinophils, monocytes, macrophages, mast cells and normal myeloid precursor cells. It is not expressed on normal erythrocytes, platelets or lymphocytes. CD15 may function as an important signaling molecule capable of initiating proinflammatory events in monocytes that come into contact with activated endothelium.



Lysed normal whole blood sample.

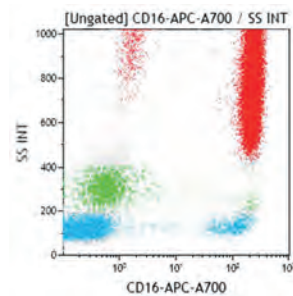
Clone: 80H5 (IgM Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B49218	CE/IVD	IOTest	IVDR
PB	0.5 mL	Liquid	A74775	ASR	IOTest	cGMP
KrO	0.5 mL	Liquid	B01176	ASR	IOTest	cGMP
FITC	100 tests	Liquid	B36298	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM1423U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM1954U	ASR	IOTest	cGMP
PC5	100 tests	Liquid	B49217	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2641U	ASR	IOTest	cGMP



## CD16

The CD16 antigen is the low-affinity receptor for IgG (FcγRIII). The CD16 antigen exists in two different forms encoded by two different genes: FcγRIIIA (or III-2) and FcγRIIIB (or III-1). The genetic heterogeneity of CD16 generates alternative membrane-anchored molecules. One is a transmembrane form (FcγRIIIA, 50-65 kDa) expressed on NK cells, monocytes and macrophages. The other is a glycosylphosphatidylinositol (GPI)-anchored form (FcγRIIIB, 48 kDa) only expressed on neutrophils. It has been shown that the CD16 antigen can be non-covalently associated within the membrane of NK cells, to a disulfide-linked homo or heterodimer made from the 16 kDa CD3ζ chain and the FcεR1γ chain.



Lysed normal whole blood sample.

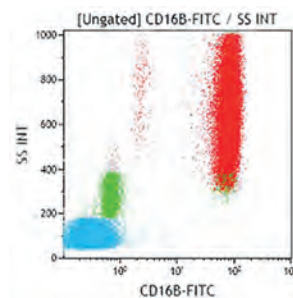
### Clone: 3G8 (IgG1 Mouse)

The 3G8 monoclonal antibody is inappropriate for western blot use. 3G8 binds to both isoforms of the CD16 molecule. 3G8 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey and Equine, Canine.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B36292	CE/IVD	IOTest	IVDR
PB	0.5 mL	Liquid	A82792	ASR	IOTest	cGMP
KrO	0.5 mL	Liquid	B00069	ASR	IOTest	cGMP
FITC	100 tests	Liquid	B49215	CE/IVD	IOTest	IVDR
FITC	0.5 mL	Liquid	6604894	ASR	CYTO-STAT	cGMP
FITC	2 mL	Liquid	IM0814U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07766	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1238U	ASR	IOTest	cGMP
ECD	100 tests	Liquid	B49216	CE/IVD	IOTest	IVDR
ECD	1 mL	Liquid	A33098	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07767	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2642U	ASR	IOTest	cGMP
PC7	100 tests	Liquid	6607118	RUO	IOTest	cGMP
APC	0.5 mL	Liquid	B00845	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	B20023	ASR	IOTest	cGMP
APC-A750	50 tests	Liquid	B49184	CE/IVD	IOTest	IVDR
APC-A750	0.5 mL	Liquid	A66330	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM0813	ASR	-	cGMP

## CD16b

Fc- $\gamma$ RIII (CD16) is a low affinity receptor involved in interactions with immune complexes. It is a 50 – 80 kDa protein with two distinct forms encoded by two different genes: IIIA and IIIB. The transmembrane form (Fc- $\gamma$ RIIIA) is expressed on NK cells, monocytes and macrophages. The IIIB mRNA encodes Fc $\gamma$ RIIIB, a glycoprotein anchored to the outer leaflet of the membrane by a glycosylphosphatidylinositol (GPI) moiety and is transcribed only in human neutrophils. Fc $\gamma$ RIIIB (CD16b) may act with Fc $\gamma$ RIIA (CD32) expressed on neutrophils to mediate antibody-dependent cytotoxicity (ADCC) and phagocytosis. The GPI-linked receptor exists in a soluble form (sCD16) revealing an immunoregulatory function through interaction with complement receptors.



Lysed normal whole blood sample.

### Clone: 1D3 (IgM Mouse)

The monoclonal antibody 1D3 was shown to be non-reactive with NK cells or monocytes but to be specific to polymorphonuclear leucocytes (PMNs). It recognizes an epitope specific to the Fc $\gamma$ RIIIB molecule and was characterized as the sole antibody belonging to the CD16b cluster of differentiation. This antibody reacts with PMNs, irrespective of the neutrophil antigen (NA) phenotype, although it shows lower reactivity with NA2-homozygote PMNs as compared to NA1-homozygotes or NA1/NA2 heterozygotes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM2353U</b>	ASR	IOTest	cGMP

## CD18

The beta2 integrins (CD11/CD18) are the major adhesion molecule family of leukocytes. Most leukocytes express one or more members of this family. CD18 is the 95 kDa integrin  $\beta$ 2-chain which forms non-covalently-bound heterodimers with one of four  $\alpha$  subunits. The four alpha subunits are: CD11a ( $\alpha$ L) (all leukocytes), CD11b ( $\alpha$ M) (granulocytes, monocytes, some macrophages), CD11c ( $\alpha$ X) (granulocytes, monocytes, dendritic antigen presenting cells), CD11d ( $\alpha$ D) (CD8 T-cell subpopulation including large granular lymphocytes, macrophages and gamma-delta T cells in splenic red pulp). CD18 is expressed by all leukocytes (including histiocytes - macrophages, Langerhan's cells and dendritic cells) but no platelets. Macrophages and granulocytes express 10-fold more CD18 than do lymphocytes.

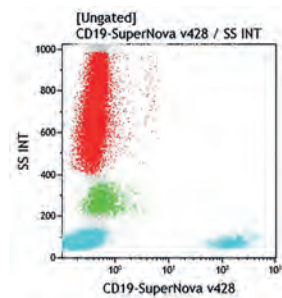
### Clone: 7E4 (IgG1 Mouse)

7E4 is a blocking monoclonal antibody in cell adhesion assays. 7E4 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon and Bovine, Ovine, Porcine, Equine, Canine, Feline, Mink, Llama.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1568U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1570U</b>	ASR	IOTest	cGMP

## CD19

The CD19 antigen (also called B4) is a type I membrane glycoprotein with a molecular weight of 95 kDa. It is a signal transduction molecule that regulates lymphocyte development, activation, and differentiation. The molecule is expressed on all normal B lymphocytes including pro-B lymphocytes, but it is lost in maturation to plasma cells. It is also found on the surface of follicular dendritic cells, on the early cells of myelomonocytic lineage and on most stabilized B cell lines. It is not present on normal T lymphocytes, NK cells, monocytes, and granulocytes. CD19 can be associated with other surface molecules including CD21 and CD81. Co-ligation of the CD19-CD21-CD81 complex with the surface IgM-B-cell antigen receptor (BCR) leads to the phosphorylation of CD19 by Syk, followed by the recruitment of positive signal transduction effectors such as phosphatidylinositol 3 kinase (PI3 kinase), Lyn, and Fyn.



Lysed normal whole blood sample

## Clone: 89B (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Freeze-dried	<b>6603012</b>	IVD	COULTER CLONE	98/79/EC
<b>FITC</b>	50 tests	Liquid	<b>6603859</b>	IVD	CYTO-STAT	98/79/EC
<b>RD1</b>	100 tests	Liquid	<b>6603024</b>	IVD	COULTER CLONE	cGMP
<b>RD1</b>	50 tests	Liquid	<b>6603846</b>	IVD	CYTO-STAT	cGMP

## Clone: J3-119 (IgG1 Mouse)

*In vitro* studies show that the CD19 antibodies have an inhibitory effect on the activation and proliferation of B lymphocytes. They also inhibit the B cell response after co-stimulation by anti-immunoglobulin and interleukin 4.

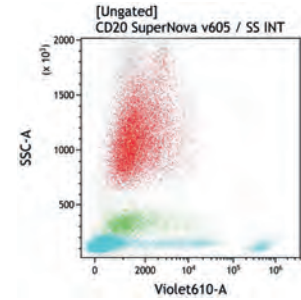
Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	0.5 mL	Liquid	<b>C69244</b>	ASR	IOTest	cGMP	<b>NEW</b>
<b>PB</b>	50 tests	Liquid	<b>B49213</b>	CE/IVD	IOTest	IVDR	
<b>PB</b>	0.5 mL	Liquid	<b>A86355</b>	ASR	IOTest	cGMP	
<b>KrO</b>	0.5 mL	Liquid	<b>A96418</b>	ASR	IOTest	cGMP	
<b>FITC</b>	100 tests	Liquid	<b>A07768</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM1284U</b>	ASR	IOTest	cGMP	
<b>PE</b>	100 tests	Liquid	<b>A07769</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>IM1285U</b>	ASR	IOTest	cGMP	
<b>ECD</b>	100 tests	Liquid	<b>A07770</b>	CE/IVD	IOTest	IVDR	
<b>ECD</b>	1 mL	Liquid	<b>IM2708U</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A07771</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	1 mL	Liquid	<b>IM2643U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	50 tests	Liquid	<b>B49211</b>	CE/IVD	IOTest	IVDR	
<b>PC5.5</b>	0.5 mL	Liquid	<b>A66328</b>	ASR	IOTest	cGMP	
<b>PC7</b>	100 tests	Liquid	<b>IM3628</b>	CE/IVD	IOTest	IVDR	
<b>PC7</b>	1 mL	Liquid	<b>IM3628U</b>	ASR	IOTest	cGMP	
<b>APC</b>	100 tests	Liquid	<b>IM2470</b>	CE/IVD	IOTest	IVDR	
<b>APC</b>	1 mL	Liquid	<b>IM2470U</b>	ASR	IOTest	cGMP	
<b>APC-A700</b>	50 tests	Liquid	<b>B49212</b>	CE/IVD	IOTest	IVDR	
<b>APC-A700</b>	0.5 mL	Liquid	<b>A78837</b>	ASR	IOTest	cGMP	
<b>AF700</b>	0.5 mL	Liquid	<b>B76283</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	50 tests	Liquid	<b>A94681</b>	CE/IVD	IOTest	IVDR	
<b>APC-A750</b>	0.5 mL	Liquid	<b>A78838</b>	ASR	IOTest	cGMP	
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM1313</b>	ASR	-	cGMP	

## Clone: HD237 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>ECD</b>	0.5 mL	Liquid	<b>6604551</b>	ASR	CYTO-STAT	cGMP

## CD20

The CD20 antigen (Bp35) is an integral non-glycosylated membrane protein with four transmembrane domains. Three isoforms (33, 35 and 37 kDa) result from differential phosphorylation within the cytoplasmic domain. CD20 may also exist on the cell surface as a homo-oligomeric complex forming with other molecules a multimeric receptor complex. The expression of CD20 is restricted to B-lineage cells. Its expression occurs early in pre-B lymphocyte development, persists in B-lymphocyte ontogeny and is lost upon ultimate plasma cell differentiation. The CD20 molecule is present on all B lymphocytes whatever the hematopoietic tissue where they are found (peripheral blood, lymph nodes, spleen, tonsil, or bone marrow). The CD20 antigen may be weakly expressed on a subset of resting T lymphocytes. However, CD20 is not expressed on other leucocyte subsets including NK cells, monocytes and granulocytes.



Lysed normal whole blood sample

### Clone: B9E9 (IgG2a Mouse)

All monoclonal antibodies directed to the extracellular domain of the CD20 molecule are likely to bind closely related epitopes. B9E9 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Pigtailed Macaque, Hamadryas Baboon, Olive Baboon, Sooty Mangabey.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C84703</b>	RUO	IOTest	cGMP	available Q2
<b>PB</b>	50 tests	Liquid	<b>B49208</b>	CE/IVD	IOTest	IVDR	
<b>PB</b>	0.5 mL	Liquid	<b>A74777</b>	ASR	IOTest	cGMP	
<b>SNv605</b>	0.5 mL	Liquid	<b>C78079</b>	ASR	IOTest	cGMP	NEW
<b>FITC</b>	100 tests	Liquid	<b>A07772</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM1455U</b>	ASR	IOTest	cGMP	
<b>PE</b>	100 tests	Liquid	<b>IM1451</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>IM1451U</b>	ASR	IOTest	cGMP	
<b>ECD</b>	100 tests	Liquid	<b>B92433</b>	CE/IVD	IOTest	IVDR	
<b>ECD</b>	1 mL	Liquid	<b>IM3607U</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A07773</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	1 mL	Liquid	<b>IM2644U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	0.5 mL	Liquid	<b>B23134</b>	ASR	IOTest	cGMP	
<b>PC7</b>	100 tests	Liquid	<b>IM3629</b>	CE/IVD	IOTest	IVDR	
<b>PC7</b>	1 mL	Liquid	<b>IM3629U</b>	ASR	IOTest	cGMP	
<b>APC</b>	100 tests	Liquid	<b>A21693</b>	CE/IVD	IOTest	IVDR	
<b>APC</b>	1 mL	Liquid	<b>A51076</b>	ASR	IOTest	cGMP	
<b>APC-A700</b>	0.5 mL	Liquid	<b>B12112</b>	ASR	IOTest	cGMP	
<b>AF700</b>	0.5 mL	Liquid	<b>B76287</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	50 tests	Liquid	<b>B49209</b>	CE/IVD	IOTest	IVDR	
<b>APC-A750</b>	0.5 mL	Liquid	<b>A66331</b>	ASR	IOTest	cGMP	

### Clone: H299 (IgG2a Mouse)

H299 cross reacts with: African Green, Chimpanzee, Common Marmoset, Cotton-topped Tamarin, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Freeze-dried	<b>6602381</b>	IVD	COULTER CLONE	98/79/EC
<b>FITC</b>	50 tests	Liquid	<b>6604106</b>	IVD	CYTO-STAT	cGMP
<b>RD1</b>	100 tests	Liquid	<b>6603446</b>	IVD	COULTER CLONE	98/79/EC
<b>RD1</b>	50 tests	Liquid	<b>6603858</b>	IVD	CYTO-STAT	98/79/EC
<b>UNLB</b>	0.25 mg	Freeze-dried	<b>A83477</b>	ASR	COULTER CLONE	cGMP

### Clone: FMC7 (IgM Mouse)

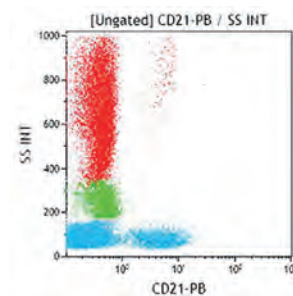
The FMC7 antibody reacts with a subpopulation of peripheral blood B lymphocytes and tonsil B cells, but it does not react with granulocytes, monocytes, platelets, erythrocytes, T lymphocytes or null cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	50 tests	Liquid	<b>B96782</b>	CE/IVD	IOTest	IVDR
<b>PB</b>	0.5 mL	Liquid	<b>B08466</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>A07791</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	1 mL	Liquid	<b>IM1364U</b>	ASR	IOTest	cGMP



## CD21

The CD21 molecule is a 145 kDa type I transmembrane glycoprotein, which belongs to the family of complement regulatory proteins. CD21 is expressed by mature B lymphocytes and is rapidly lost following cellular activation. It is not expressed on early (pre-B) and late (B blast or plasma cell) B ontogeny. On follicular dendritic cells the CD21 antigen is strongly expressed. Expression of CD21 in a subset of T lymphocytes has been reported. Four types of CD21 ligands have been identified: They are products following proteolytic cleavage of the complement protein C3 (i. e. iC3b, C3dg and C3d), the Epstein-Barr (EBV) virus envelope, Interferon  $\alpha$  (IFN $\alpha$ ) and CD23. CD21 was found to be part of a large complex containing also CD19, and CD81 (also named TAPA-1) suggesting a key-role of CD21 during the immune response.



Lysed normal whole blood sample.

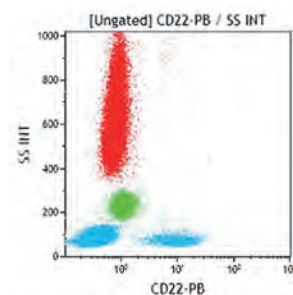
### Clone: BL13 (IgG1 Mouse)

BL13 cross reacts with: Bovine, Ovine, Equine, Canine, Rabbit.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B09982	ASR	IOTest	cGMP
FITC	2 mL	Liquid	IM0473U	ASR	IOTest	cGMP
PE	2 mL	Liquid	A32536	ASR	IOTest	cGMP

## CD22

The CD22 antigen (BL-CAM) is a transmembrane glycoprotein of the immunoglobulin superfamily. It may be expressed as two different isoforms: the  $\alpha$  form (130 kDa) and the  $\beta$  form (140 kDa). It is a B lineage restricted antigen that occurs in the cytoplasm of early B cell precursors and pre-B cells and on the cell surface of resting and activated B cells. The CD22 antigen is absent from peripheral blood T lymphocytes, granulocytes, monocytes. It is expressed on less than 1% of bone marrow mononuclear cell and 50% of Epstein Barr virus transformed lymphoblastoid B cell lines. CD22 demonstrates heterogeneous expression on resting peripheral blood B lymphocytes. The antigen is lost following activation of B cells with a variety of mitogens. The CD22 molecule regulates signal transduction through the B cell receptor. It is a receptor for certain sialic acid containing glycoproteins.



Lysed normal whole blood sample.

### Clone: HD239 (IgG2b Mouse)

The B3 antibody binds to an epitope located within the first Ig-like domain of CD22 antigen. It can be used to detect intracytoplasmic CD22 in flow cytometry after permeabilization.

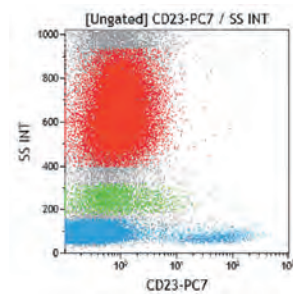
Form	Size	Format	Part#	Status	Line	Quality Standard
RD1	0.5 mL	Liquid	6604428	ASR	CYTO-STAT	cGMP

### Clone: SJ10.1H11 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C69246	RUO	IOTest	cGMP	NEW
PB	0.5 mL	Liquid	B06498	ASR	IOTest	cGMP	
FITC	2 mL	Liquid	IM0779U	ASR	IOTest	cGMP	
PE	100 tests	Liquid	IM1835	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM1835U	ASR	IOTest	cGMP	
ECD	0.5 mL	Liquid	B10245	ASR	IOTest	cGMP	
PC5	1 mL	Liquid	IM3704	ASR	IOTest	cGMP	
PC5.5	0.5 mL	Liquid	A80712	ASR	IOTest	cGMP	
PC7	1 mL	Liquid	A74788	ASR	IOTest	cGMP	
APC	50 tests	Liquid	B96777	CE/IVD	IOTest	IVDR	
APC	0.5 mL	Liquid	A60791	ASR	IOTest	cGMP	
APC-A700	50 tests	Liquid	B36293	CE/IVD	IOTest	IVDR	
APC-A700	0.5 mL	Liquid	A89311	ASR	IOTest	cGMP	

## CD23

The CD23 antigen (also called B6) is a transmembrane glycoprotein with a molecular weight of 45 kDa, spatially associated with the major histocompatibility complex (MHC) Class II antigen. The CD23 molecule, also named FcεRII is the low affinity receptor for IgE. CD23 antigen is primarily expressed on B lymphocytes and monocytes. It is also present on a large variety of other cells such as T lymphocytes, eosinophils, platelets, Langerhans cells, follicular dendritic cells (FDC), a subset of thymic epithelial cells and neutrophils. On B lymphocytes, CD23 expression is up-regulated upon activation and ultimately lost upon differentiation towards secreting-plasmocytes. A soluble form of CD23 (sCD23) exists and may be involved (like CD23) in the regulation of IgE synthesis and inflammatory phenomenon.



Lysed normal whole blood sample.

### Clone: HD50 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>RD1</b>	0.5 mL	Liquid	<b>6604426</b>	ASR	CYTO-STAT	cGMP

### Clone: 9P25 (IgG1 Mouse)

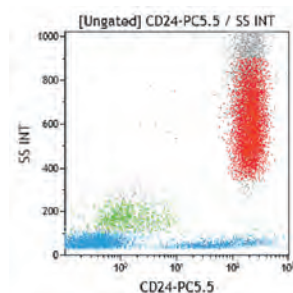
9P25 blocks the binding of IgE. 9P25 cross reacts with: Bovine, Ovine, Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>SNv428</b>	50 tests	Liquid	<b>C76832</b>	RUO	IOTest	cGMP
<b>PB</b>	0.5 mL	Liquid	<b>A93689</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>IM0529</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0529U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>B49207</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>A33099</b>	ASR	IOTest	cGMP
<b>ECD</b>	1 mL	Liquid	<b>IM3609U</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B12935</b>	ASR	IOTest	cGMP
<b>APC</b>	1 mL	Liquid	<b>A69964</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	0.5 mL	Liquid	<b>A70207</b>	ASR	IOTest	cGMP

available Q2

## CD24

The CD24 antigen is a glycosyl-phosphatidylinositol-linked membrane sialoglycoprotein, with a molecular weight of 35-45 kDa. CD24 is present on B cells, from the pre-B to the mature B cell stage, but not on plasma cells. It is expressed on mature granulocytes and on a variety of epithelial cell types. CD24 was discovered in mice as a heat-stable antigen and was used as a marker to differentiate hematopoietic cells and neuronal cells. It is currently known that CD24 serves as a costimulatory factor of T cells that regulate their homeostasis and proliferation, while in B cells, CD24 is functionally involved in cell activation and differentiation. In hematopoietic cells, CD24 is known to bind to molecules exhibiting danger-associated molecular patterns (DAMPs). CD24 mediates signal transduction and activates the mitogen-activated protein kinase pathway, which involves B- and T-cell development and apoptosis, cell binding and granulocyte oxidative burst.



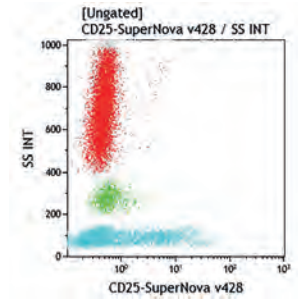
Lysed normal whole blood sample.

### Clone: ALB9 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>B92425</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM1428U</b>	ASR	IOTest	cGMP
<b>ECD</b>	0.5 mL	Liquid	<b>B12699</b>	ASR	IOTest	cGMP
<b>PC5</b>	1 mL	Liquid	<b>IM2645</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B23133</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A87785</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B10738</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0118</b>	RUO	-	cGMP

## CD25

The CD25 antigen (IL-2R $\alpha$  chain, Tac or p55) is a single-chain glycoprotein with a molecular weight of 55 kDa which is the low affinity receptor for IL-2 (IL-2R $\alpha$  or IL-2R1). In conjunction with CD122 (IL-2R $\beta$ , p75) and CD132 (IL-2R $\gamma$ , p64), CD25 antigen forms the high-affinity IL-2R complex. CD25 is highly expressed on regulatory CD4-positive T lymphocytes and undetected on resting CD8 positive lymphocytes. However, all activated T lymphocytes express the CD25 protein. CD25 is also found on a subset of B cells (CD20 positive), on activated monocytes and macrophages, and on T cell clones. It is also expressed on NK cells enriched from peripheral blood lymphocytes by culturing in the presence of IL-2. It is absent from thymocytes, granulocytes, monocytes, resting NK cells, platelets and erythrocytes.



Lysed normal whole blood sample

### Clone: 1HT44H3 (IgG2a Mouse)

1HT44H3 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
RD1	0.5 mL	Liquid	6604422	ASR	CYTO-STAT	cGMP

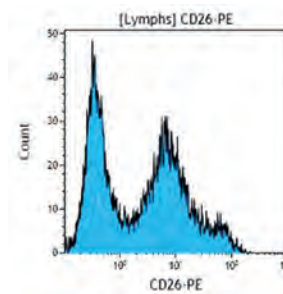
### Clone: B1.49.9 (IgG2a Mouse)

The B1.49.9 monoclonal antibody does not block the binding of IL-2 to its receptor. B1.49.9 cross reacts with: Squirrel Monkey and Ovine, Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	0.5 mL	Liquid	C69245	ASR	IOTest	cGMP	NEW
PB	0.5 mL	Liquid	A82944	ASR	IOTest	cGMP	
SNv605	0.5 mL	Liquid	C78081	ASR	IOTest	cGMP	NEW
FITC	2 mL	Liquid	IM0478U	ASR	IOTest	cGMP	
PE	100 tests	Liquid	A07774	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM0479U	ASR	IOTest	cGMP	
ECD	100 tests	Liquid	6607112	RUO	IOTest	cGMP	
PC5	100 tests	Liquid	IM2646	CE/IVD	IOTest	IVDR	
PC5	1 mL	Liquid	IM2646U	ASR	IOTest	cGMP	
PC5.5	50 tests	Liquid	B92458	CE/IVD	IOTest	IVDR	
PC5.5	0.5 mL	Liquid	A79386	ASR	IOTest	cGMP	
PC7	1 mL	Liquid	A52882	ASR	IOTest	cGMP	
APC	0.5 mL	Liquid	B09684	ASR	IOTest	cGMP	
APC-A700	50 tests	Liquid	B92454	CE/IVD	IOTest	IVDR	
APC-A700	0.5 mL	Liquid	A86356	ASR	IOTest	cGMP	
APC-A750	0.5 mL	Liquid	B13979	ASR	IOTest	cGMP	

## CD26

The CD26 antigen is the dipeptidylpeptidase IV ectoenzyme (DPPIV). It is a single-chain glycoprotein with a molecular weight of 110 kDa. It binds to adenosine deaminase protein (ADA). CD26 is a functional collagen receptor. CD26 provides an alternative activation pathway for T lymphocytes in which the CD3 $\zeta$  (TCR $\zeta$  chain) is required for CD26-mediated signaling. The expression of CD26 is found on resting T cells and is increased on activated T lymphocytes, B lymphocytes, macrophages and NK cells. In a study using this antibody, it has been suggested that CD26 is involved as a cofactor of CD4 in the mechanism of triggering apoptosis. Another study showed the expression of CD26 in human kidney and on lymphocytes and macrophages of specific skin biopsies.



Lysed normal whole blood sample gated on lymphocytes.

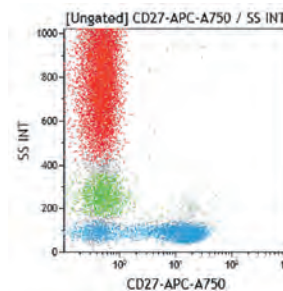
### Clone: 4EL-1C7 (IgG1 Mouse)

The 4EL-1C7 monoclonal antibody does not inhibit T cell activation and cytotoxicity.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2724	ASR	IOTest	cGMP

## CD27

The CD27 molecule is a transmembrane disulfide-linked homodimer which belongs to tumor necrosis factor receptor (TNFR) / nerve growth factor receptor (NGFR) family. The molecular weight of the recognized antigen is 55 kDa / 120 kDa under reducing / non reducing conditions respectively. The CD27 glycoprotein is found on medullary thymocytes, peripheral T cells, subset of mature B cells and NK cells. On T cells, CD27 is preferentially expressed on the CD45RA<sup>+</sup> CD45RO<sup>-</sup> naive subset of CD4<sup>+</sup> T lymphocytes whereas most memory T cells (CD45RA<sup>-</sup> CD45RO<sup>+</sup>) lack CD27. Activation of T cells, when involving CD27 molecule, results in the upregulation of CD27 expression as cell surface embedded, and also in the release of a soluble form of CD27 (sCD27). CD70 antigen, which is a member of the TNF ligand superfamily, interacts with CD27 molecule and is known to be the CD27-ligand.



Lysed normal whole blood sample.

### Clone: 1A4CD27 (IgG1 Mouse)

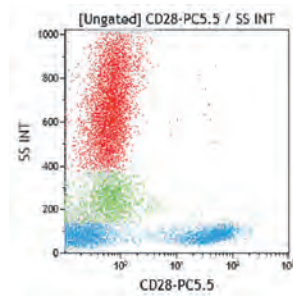
1A4CD27 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C76825	RUO	IOTest	cGMP	available Q2
PB	0.5 mL	Liquid	B30635	ASR	IOTest	cGMP	
PE	100 tests	Liquid	B96790	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM2578	ASR	IOTest	cGMP	
ECD	0.5 mL	Liquid	B26603	ASR	IOTest	cGMP	
PC5	100 tests	Liquid	6607107	RUO	IOTest	cGMP	
PC5.5	0.5 mL	Liquid	B21444	ASR	IOTest	cGMP	
PC7	100 tests	Liquid	B49205	CE/IVD	IOTest	IVDR	
PC7	1 mL	Liquid	A54823	ASR	IOTest	cGMP	
APC	0.5 mL	Liquid	B09983	ASR	IOTest	cGMP	
APC-A750	0.5 mL	Liquid	B12701	ASR	IOTest	cGMP	



## CD28

The CD28 antigen (Tp44) is a homodimer of disulfide-linked chains, with a molecular weight of 44 kDa each. It is involved in the interaction of T lymphocytes with antigen-presenting cells (APCs), through its counter-receptors, B7-1/BB-1 (CD80) and B7-2/B70 (CD86). It provides a major co-stimulatory signal for T cell activation, proliferation and lymphokine production. The CD28 family of receptors (CD28, CTLA-4, ICOS, PD-1 and BTLA) plays a critical role in controlling the adaptive immune response. The CD28 receptor can enhance T cell antigen receptor (TCR) signals, as well as deliver independent signals. Although the signals through CD28 are crucial for the initial co-stimulation of interleukin-2 (IL-2) production, a TCR-independent CD28 signal leads to the selective transcription of survival, but not proliferative genes. CD28 is expressed by a majority of CD3+ T lymphocytes. CD4+ T lymphocytes express the CD28 antigen more frequently than do CD8+ T lymphocytes. CD28 antigen is also present on plasma cells and thymocytes.



Lysed normal whole blood sample.

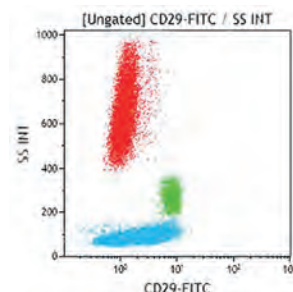
### Clone: CD28.2 (IgG1 Mouse)

The CD28.2 monoclonal antibody costimulates T cell proliferation and cytokine production in the presence of T cell activators ( $\alpha$ CD3, PMA, SEB). It inhibits proliferation of CD4+ T lymphocytes. It cross-reacts with Rhesus monkey peripheral blood lymphocytes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1236U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM2071U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>6607111</b>	RUO	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>6607108</b>	RUO	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B24027</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B23313</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B10244</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	0.5 mL	Liquid	<b>B12696</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B08757</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM1376</b>	ASR	-	cGMP

## CD29

The CD29 antigen is the 130 kDa integrin  $\beta$ 1 chain which is expressed as a heterodimer, non-covalently associated with the integrin  $\alpha$  subunits 1 to 6 (CD49a to CD49f) also known as Very Late Antigens (VLA). CD29 complexes are involved in cell-cell and cell-matrix adhesion, depending on the  $\alpha$  subunit associated to CD29. CD29 is also known as platelet GPIIb. The antigen mediates cellular adhesion and has broad cellular reactivity, but is not expressed by erythrocytes. In normal peripheral blood it is found on a subset of CD4+ and CD8+ T lymphocytes, on a minority of B lymphocytes and on monocytes. The "inducer" subpopulation of CD4+ lymphocytes co-expresses CD4 and CD29.



Lysed normal whole blood sample.

### Clone: 4B4LDC9LDH8 (IgG1 Mouse)

4B4LDC9LDH8 is a blocking monoclonal antibody in CD29 mediated adhesion. This antibody was used as CD29 reference monoclonal antibody during HLDA 6. 4B4LDC9LDH8 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>RD1</b>	100 tests	Liquid	<b>6603177</b>	RUO	COULTER CLONE	cGMP
<b>RD1</b>	50 tests	Liquid	<b>6604159</b>	RUO	CYTO-STAT	cGMP
<b>UNLB</b>	100 tests	Freeze-dried	<b>6603113</b>	RUO	COULTER CLONE	cGMP

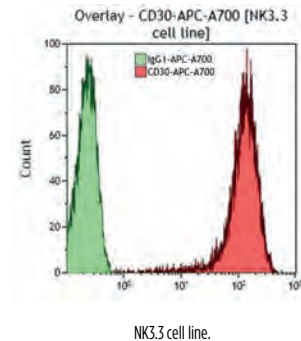
### Clone: K20 (IgG2a Mouse)

K20 is a non blocking monoclonal antibody in CD29 mediated adhesion. K20 cross reacts with: Bovine, Caprine, Porcine, Equine, Canine, Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0791U</b>	ASR	IOTest	cGMP

## CD30

The CD30 antigen (also known as Ki-1 antigen) is a single-chain glycoprotein with a molecular weight of 105 kDa. It is a member of the TNFR (Tumor Necrosis Factor Receptor) / NGFR (Nerve Growth Factor Receptor) superfamily and binds to CD153 (CD30 ligand). The CD30 antigen is found on activated T and B lymphocytes and on Reed Sternberg cells. In lymphoid tissues, CD30 is expressed on a few extrafollicular activated T and B blasts and B blasts located at the rim of germinal center. CD30 expression is induced in vitro on lectin-stimulated T-cell, B-cell blast and on mixed lymphocyte culture (MCL) suggesting an activated lymphoid cell expression feature.



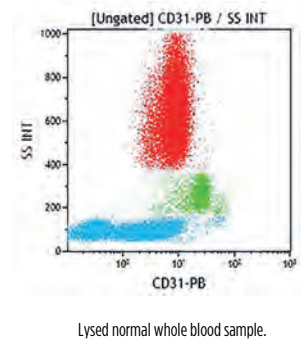
### Clone: HRS4 (IgG1 Mouse)

HRS4 recognizes a formaldehyde-resistant epitope. HRS4 cross reacts with: Cynomolgus Monkey, Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2033U	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A87939	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	B42017	ASR	IOTest	cGMP

## CD31

The CD31 antigen, also known as Platelet Endothelial Cell Adhesion Molecule 1 (PECAM-1), is a transmembrane glycoprotein of 130 kDa related to the immunoglobulin superfamily. It is expressed on stem cells of the myeloid lineage, on platelets and on endothelial cell junctions. CD31 is involved in the migration of leucocytes through the endothelial cell wall, via adhesion to  $\alpha v \beta 3$  integrin and to CD38. In addition, CD31 participates in outside-in signaling in leucocytes likely through phosphorylation of its intracytoplasmic tyrosine residues 663 and 686 and subsequent association with tyrosine phosphatases SHP-1 and SHP-2. Studies suggest a comparable mechanism of action for CD31 in activation and aggregation of platelets.



### Clone: 1F11 (IgG1 Mouse)

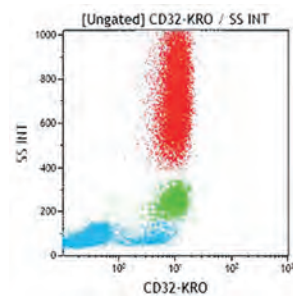
Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM2409	RUO	IOTest	cGMP

### Clone: 5.6E (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B13035	ASR	IOTest	cGMP
FITC	2 mL	Liquid	IM1431U	ASR	IOTest	cGMP

## CD32

FcγRII proteins exist as six potential isoforms encoded by three genes, designated as A, B, and C. The reported molecular weight of these isoforms are variable between 37 and 43 kDa. All isoforms are similar but not identical in their extracellular regions. The cytoplasmic portion of FcγRIIA and FcγRIIC contains an activatory ITAM motif whereas FcγRIIB contains an inhibitory ITIM motif. Differential splicing of FcγRIIB gene yields to 2 isoforms FcγRIIBb1 and FcγRIIBb2. Monocytes carry all forms of FcγRII, neutrophils carry FcγRIIA and C. FcγRIIB is expressed by B lymphocytes and mast cells.



Lysed normal whole blood sample.

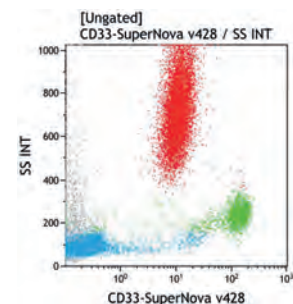
### Clone: 2E1 (IgG2a Mouse)

The 2E1 antibody recognizes the antigen isoforms expressed on basophils, neutrophils, eosinophils, platelets and B cells. 2E1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon and Bovine, Ovine, Equine, Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1935	ASR	IOTest	cGMP

## CD33

The CD33 antigen is a 67 kDa single-chain transmembrane glycoprotein reported to be a sialic acid dependent adhesion molecule. The extracellular portion of the molecule belongs to the Ig superfamily, involving one V-like and one C2-like domains. This antigen shows some homologies to myelin-associated glycoprotein and to the CD22 molecule. CD33 antigen is expressed on monocytes in peripheral blood. In the bone marrow, it is found on granulocyte and macrophage precursors, and is absent from pluripotent stem cells.



Lysed normal whole blood sample

### Clone: 906 (IgG2b Mouse)

Approximately 30% of normal bone marrow cells express My9, including myeloblasts, promyelocytes and myelocytes. The myeloid colony forming cells express My9, as do a subset of erythroid burst forming cells. Erythroid colony forming cells do not express My9.

Form	Size	Format	Part#	Status	Line	Quality Standard
RD1	0.5 mL	Liquid	6603042	ASR	COULTER CLONE	cGMP
RD1	0.5 mL	Liquid	6604121	ASR	CYTO-STAT	cGMP

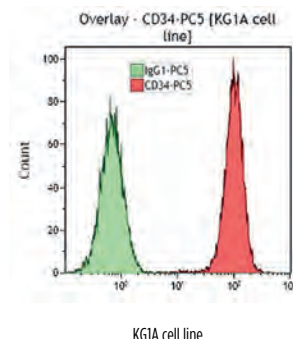
### Clone: D3HL60.251 (IgG1 Mouse)

The D3HL60.251 monoclonal antibody reacts with cells of myeloid origin. It reacts strongly with monocytes, and weakly with granulocytes of the peripheral blood but does not react with mature lymphoid cells or lymphoid precursors.

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C76819	RUO	IOTest	cGMP	NEW
FITC	2 mL	Liquid	IM1135U	ASR	IOTest	cGMP	
PE	100 tests	Liquid	A07775	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM1179U	ASR	IOTest	cGMP	
PC5	100 tests	Liquid	IM2647	CE/IVD	IOTest	IVDR	
PC5	1 mL	Liquid	IM2647U	ASR	IOTest	cGMP	
PC5.5	50 tests	Liquid	B36289	CE/IVD	IOTest	IVDR	
PC5.5	0.5 mL	Liquid	A70198	ASR	IOTest	cGMP	
PC7	100 tests	Liquid	B92408	CE/IVD	IOTest	IVDR	
PC7	1 mL	Liquid	A54824	ASR	IOTest	cGMP	
APC	100 tests	Liquid	IM2471	CE/IVD	IOTest	IVDR	
APC	1 mL	Liquid	IM2471U	ASR	IOTest	cGMP	
APC-A750	0.5 mL	Liquid	A70200	ASR	IOTest	cGMP	

## CD34

The CD34 antigen is a monomeric transmembrane phosphoglycoprotein of about 110 kDa with two distinct extracellular domains. The membrane proximal domain, of about 110 amino acids, probably adopts a globular conformation. The NH2-terminal domain, of about 140 amino acids, is heavily glycosylated with both N-linked glycans and sialylated O-linked carbohydrates and probably exhibits an extended rod-like structure typical of mucin-like glycoproteins. The CD34 antigen is expressed on hematopoietic progenitor cells of all lineages as well as the most primitive pluripotent stem cells. CD34 antigen expression is highest on the most primitive stem cells and is gradually lost as lineage committed progenitors differentiate. The CD34 antigen is also present on capillary endothelial cells and on bone marrow stromal cells. Variations of glycosylation are thought to occur during normal hematopoiesis depending on lineage commitment and the level of cellular maturation.



### Clone: Immu133 (IgG1 Mouse)

**Epitope Class I:** Immu133 monoclonal antibody detects sialic acid-dependent class I epitope.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM1420	RUO	IOTest	cGMP

### Clone: QBEnd10 (IgG1 Mouse)

**Epitope Class II:** QBEnd10 reacts with early normal hematopoietic progenitor cells, and with vascular endothelial cells. QBEnd10 cross reacts with: Hamadryas Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1250U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM2650U	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM0786	RUO	-	cGMP

### Clone: 581 (IgG1 Mouse)

**Epitope Class III:** Clone 581 recognizes a sialidase / glycoprotease / chymopapain insensitive class III epitope. 581 cross reacts with: Ovine.

Form	Size	Format	Part#	Status	Line	Quality Standard
SNv428	50 tests	Liquid	C76810	RUO	IOTest	cGMP
FITC	100 tests	Liquid	IM1870	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM1870U	ASR	IOTest	cGMP
PE	100 tests	Liquid	A07776	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1871U	ASR	IOTest	cGMP
ECD	100 tests	Liquid	B49202	CE/IVD	IOTest	IVDR
ECD	1 mL	Liquid	IM2709U	ASR	IOTest	cGMP
PC5	100 tests	Liquid	A07777	CE/IVD	IOTest	IVDR
PC5	1 mL	Liquid	IM2648U	ASR	IOTest	cGMP
PC7	100 tests	Liquid	A21691	CE/IVD	IOTest	IVDR
PC7	1 mL	Liquid	A51077	ASR	IOTest	cGMP
APC	100 tests	Liquid	IM2472	CE/IVD	IOTest	IVDR
APC	1 mL	Liquid	IM2472U	ASR	IOTest	cGMP
APC-A700	50 tests	Liquid	B92417	CE/IVD	IOTest	IVDR
APC-A700	0.5 mL	Liquid	A86354	ASR	IOTest	cGMP
APC-A750	50 tests	Liquid	B92463	CE/IVD	IOTest	IVDR
APC-A750	0.5 mL	Liquid	A89309	ASR	IOTest	cGMP

available Q2

### Clone: QBEnd10 + Immu133 + Immu409 (IgG Mouse)

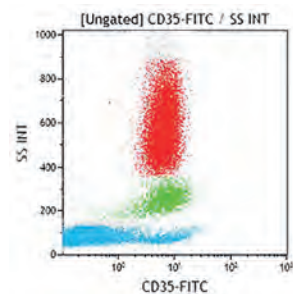
The CD34 Pool Kit includes two vials. The one labeled CD34 Pool-PE contains a mixture of QBEnd10, Immu133 and Immu409. The one labeled Isotypic Control IgG (1+2a)-PE is its matching negative control. As QBEnd10 and Immu133 are of the mouse IgG1 isotype and Immu409 of the IgG2a isotype, this control is a mixture of two R-phycoerythrin-conjugated irrelevant mouse monoclonal immunoglobulins of these isotypes. Each isotype concentration in the control matches the total concentration of each isotype in the CD34 Pool.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1459U	ASR	IOTest	cGMP



## CD35

The CD35 antigen is a polymorphic molecule. Different molecular weights: 160, 190, 220, 250 and 285 kDa were reported for the various allotypes. It is known as the complement receptor type I (CR1) with affinity for C3b, C4b and iC3b. The CD35 antigen is expressed by granulocytes (except basophils), B lymphocytes, a subset of T-cells, monocytes, some NK cells, erythrocytes macrophages cultured in vitro, glomerular podocytes and follicular dendritic cells. The CD35 antigen mediates phagocytosis by neutrophils and monocytes of complement coated particles.



Lysed normal whole blood sample.

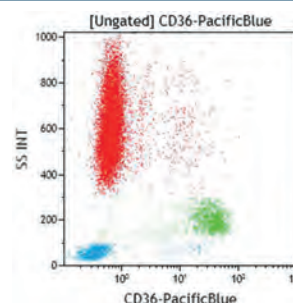
### Clone: J3D3 (IgG1 Mouse)

The J3D3 monoclonal antibody inhibits CR1-mediated decay of cells bound to the alternative and classical pathways to C3-convertase sites. It also inhibits C3b dependent rosette formation with lymphocytes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>IM1836</b>	RUO	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0195</b>	RUO	-	cGMP

## CD36

The CD36 antigen (platelet GPIV, or GPIIb) is a generic term for a family of glycoproteins with molecular weights ranging from 78 to 88 kDa. CD36 expression occurs in different types of cells, including mammary epithelial cells, endothelial cells monocytes, macrophages, platelets, megakaryocytes and early erythroid cells. This molecule is also found on some human tumor cell lines. It is a very early marker of erythroid differentiation and mediates the adherence of platelets to thrombospondin and collagen. CD36 is a scavenger receptor that functions in high affinity tissue uptake of long chain fatty acids (FA). As a result of its multiple ligands and signal transduction capabilities, CD36 has also a number of functions related to immune responses, inflammation and blood disorders.



Lysed normal whole blood sample.

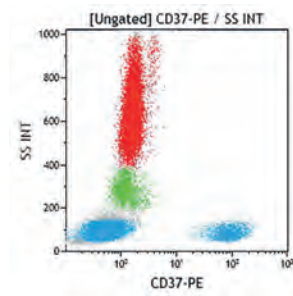
### Clone: FA6.152 (IgG1 Mouse)

The FA6-152 monoclonal antibody, raised against fetal erythrocytes, recognizes the CD36 family of antigens on platelets and certain hematopoietic cells. It does not react with lymphocytes or granulocytes. It reacts with both fetal and adult monocytes, megakaryocytes, platelets, and with reticulocytes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B43302</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>B49201</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0766U</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A87786</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	0.5 mL	Liquid	<b>B46022</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0765</b>	RUO	-	cGMP

## CD37

The CD37 antigen is a 40-52 kDa single chain transmembrane protein with 4 transmembrane domains (Tetraspan/TM4SF). It has both its NH<sub>2</sub>- and COOH-termini inside the cells, and is heavily glycosylated on one extracellular loop. Its main feature is its high content of hydrophobic residues (45%). CD37 is strongly expressed on the surface of human peripheral blood B lymphocytes and on B cells from germinal centers. In the ontogeny of B cells, this antigen appears late, after the pre-B stage, and is not expressed on plasma cells. CD37 has a low expression on T lymphocytes, granulocytes, and monocytes. It is weakly expressed by other cellular types such as Langerhans cells, macrophages, normal medullar granulous cells and peripheral blood polymorphonuclear cells. CD37 is involved in signal transduction.



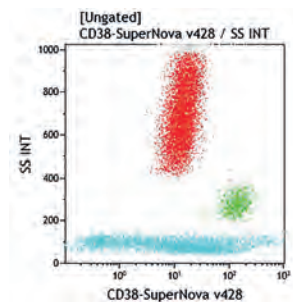
Lysed normal whole blood sample.

### Clone: BL14 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IMO458	ASR	IOTest	cGMP

## CD38

The CD38 antigen is a 45 kDa single chain type II integral membrane glycoprotein, with the NH<sub>2</sub>-terminus inside the cytoplasm. CD38 is an enzyme with several activities such as NAD glycohydrolase, ADP ribosylcyclase and cyclic ADP ribose hydrolase. CD38 is expressed on activated T and B lymphocytes, NK cells, monocytes, plasma cells and medullary thymocytes. CD38 depends on the differentiation and activation of the cell. In the B cell lineage, CD38 is expressed in early stages of B-cell ontogeny, lost during maturation and re-expressed upon terminal differentiation to plasma cells. CD38 is expressed on thymocytes and at a high level on activated T cells. Most mature resting lymphocytes of both B and T lineages do not express the CD38 antigen. CD38 is widely used as a marker to study T and B lymphocyte activation.



Lysed normal whole blood sample

### Clone: T16 (IgG1 Mouse)

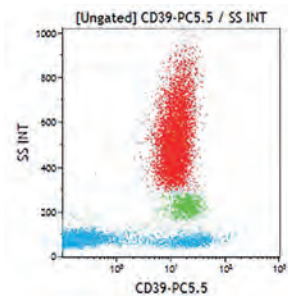
Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Liquid	A07778	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM0775U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM1832U	ASR	IOTest	cGMP

### Clone: LS198-4-3 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	0.5 mL	Liquid	C69243	ASR	IOTest	cGMP	NEW
PB	50 tests	Liquid	B92396	CE/IVD	IOTest	IVDR	
PB	0.5 mL	Liquid	B09683	ASR	IOTest	cGMP	
SNv605	50 tests	Liquid	C78077	RUO	IOTest	cGMP	NEW
PE	100 tests	Liquid	A07779	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM2371U	ASR	IOTest	cGMP	
RD1	0.5 mL	Liquid	6604928	ASR	CYTO-STAT	cGMP	
ECD	0.5 mL	Liquid	A99022	ASR	IOTest	cGMP	
PC5	100 tests	Liquid	A07780	CE/IVD	IOTest	IVDR	
PC5	1 mL	Liquid	IM2651U	ASR	IOTest	cGMP	
PC5.5	50 tests	Liquid	B49199	CE/IVD	IOTest	IVDR	
PC5.5	0.5 mL	Liquid	A70205	ASR	IOTest	cGMP	
PC7	50 tests	Liquid	B49198	CE/IVD	IOTest	IVDR	
PC7	0.5 mL	Liquid	A54189	ASR	IOTest	cGMP	
APC	1 mL	Liquid	A60792	ASR	IOTest	cGMP	
APC-A700	0.5 mL	Liquid	B23489	ASR	IOTest	cGMP	
APC-A750	50 tests	Liquid	B49200	CE/IVD	IOTest	IVDR	
APC-A750	0.5 mL	Liquid	A86049	ASR	IOTest	cGMP	

## CD39

The CD39 molecule, known as ectonucleoside triphosphate diphosphohydrolase-1 (ENTPD1), is a 70-100 kDa integral membrane glycoprotein with two transmembrane domains. It belongs to the family of the primary enzymes responsible for cell surface nucleotide hydrolysis, with ATPase and ADPase activity. CD39 antigen is expressed on activated lymphocytes, regulatory T cells, B cells, and dendritic cells. It is involved in control of the extracellular nucleoside triphosphate pool (NTP), suppression of inflammation and control of platelet activation. The coordinated expression of CD39/CD73 on Tregs and the adenosine A2A receptor on activated T effector cells generates immunosuppressive loops. In human studies, it has been reported that CD4+CD25-CD39+ T cells are T inducers.



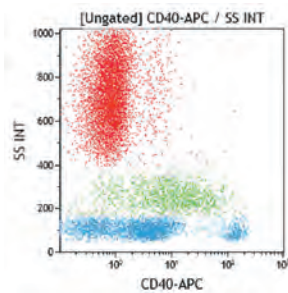
Lysed normal whole blood sample.

Clone: BA54 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B55384	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B55385	ASR	IOTest	cGMP

## CD40

The CD40 antigen is a 44-48 kDa type I integral membrane protein of the tumor necrosis factor receptor (TNFR) superfamily. This antigen is found on B cell lines, is strongly expressed by interdigitating cells (IDC), basal epithelial cells, and is also present on macrophages, some endothelial cells, and follicular dendritic cells. It is a pan-B marker, absent only from terminally differentiated plasma cells. CD40 is implicated in the process of B cell selection in the germinal centre. Studies demonstrated that CD40 monoclonal antibodies (mAbs) induce strong homotypic adhesions in resting B cells and, together with interleukin-4 (IL-4) maintain the cell cycle of blasts of the B lineage. They also can promote the switch to IgE secretion. Activated B cells via CD40 antigen in the presence of IL-10 differentiate into plasma cells and secrete large amounts of immunoglobulins. The CD154, (CD40 ligand) is a membrane glycoprotein on activated T cells that induces B cell proliferation and immunoglobulin secretion. CD154 is also expressed on activated platelets and triggers an inflammatory reaction of endothelial cells.



Lysed normal whole blood sample.

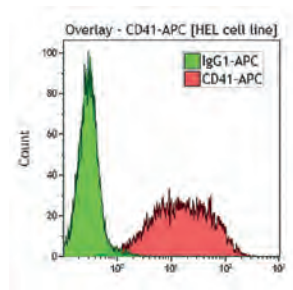
Clone: MAB89 (IgG1 Mouse)

Co-culture with MAB89 and IL-4 leads to long term B cell proliferation.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1936U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B20025	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B30636	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM1374	ASR	-	cGMP

## CD41

The CD41 antigen (platelet GPIIb; IIb integrin) is a transmembrane glycoprotein composed of two chains GPIIb $\alpha$  (120 kDa) and GPIIb $\beta$  (23 kDa) linked by one disulfide bond. CD41 is always non-covalently associated with CD61 (platelet GPIIIa,  $\beta$ 3 integrin), to form the GPIIb-IIIa (CD41/CD61) complex. CD41 is expressed by platelets, megakaryocytes and a small subset of CD34<sup>+</sup> cells, suggesting that CD41/CD61 is one of the earliest markers of the megakaryocytic lineage. The resting form of the CD41/CD61 complex binds to immobilized fibrinogen and upon platelet activation, the complex becomes a receptor for soluble fibrinogen, fibronectin, vWF, vitronectin and thrombospondin. It is involved in platelet aggregation.



HEL cell line.

### Clone: P2 (IgG1 Mouse)

The P2 antibody reacts with the  $\alpha$  chain of CD41a (GPIIb $\alpha$ ) in the intact complex with GPIIIa but not with the GPIIb or GPIIIa separately. This antibody blocks binding to fibrinogen and inhibits platelet aggregation induced by thrombin, collagen and ADP. The P2 antibody was used as a CD41 reference mAb during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0649U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07781</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM1416U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>6607117</b>	RUO	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>6607116</b>	RUO	IOTest	cGMP
<b>PC7</b>	100 tests	Liquid	<b>6607115</b>	RUO	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B16894</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0145</b>	RUO	-	cGMP

### Clone: SZ22 (IgG1 Mouse)

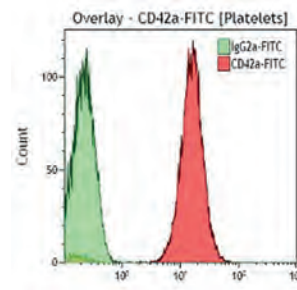
The SZ22 monoclonal antibody reacts with the  $\alpha$  chain of CD41 (GPIIb $\alpha$ ) on platelets and megakaryocytes. This monoclonal does not inhibit platelet aggregation and secretion induced by collagen, arachidonic acid, and thrombin. It does not inhibit fibrinogen binding to human platelets induced by ADP, arachidonic acid and PAF.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1756U</b>	ASR	IOTest	cGMP



## CD42a

The CD42a antigen (GPIX) is a single-chain transmembrane glycoprotein of 22 kDa that forms a noncovalent complex with CD42b, CD42c and CD42d (GPIb $\alpha$ , GPIb $\beta$ , and GPV). The CD42a expression is restricted to platelets and megakaryocytes. The GPIb-IX-V complex is the platelet receptor for von Willebrand factor and is known as von Willebrand's factor-dependent adhesion receptor. Although GPIb-IX-V primarily functions as a platelet receptor for von Willebrand factor (VWF), it can also bind to other ligands present in circulation such as thrombin, P-selectin, integrin  $\alpha$ IIb $\beta$ 3, factor XI, factor XII, high-molecular-weight kininogen, as well as a number of snake venom proteins.



Platelet rich plasma from a normal whole blood sample.

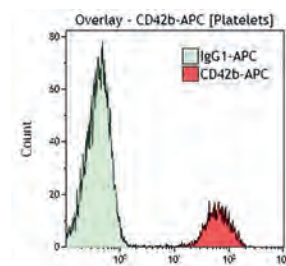
### Clone: SZ1 (IgG2a Mouse)

The SZ1 monoclonal antibody reacts with the CD42a-d complex but does not recognize GPIb or GPIX individually.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1757U</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0538</b>	RUO	-	cGMP

## CD42b

The CD42b antigen (GPIb $\alpha$ ) is a membrane glycoprotein of 135 kDa, that forms a disulfide linked 160 kDa membrane protein with the CD42c (GPIb $\beta$ ) known as GPIb. GPIb forms a noncovalent complex with GPIX (CD42a) and GPV (CD42d). This antigen is found on platelets and megakaryocytes. It has also been reported on vascular and tonsillar endothelial cells. The CD42 complex serves as the von Willebrand Factor (vWF) surface receptor involved in the adhesion of platelets to the subendothelium of damaged vascular walls.



Platelet rich plasma (PRP) from a normal whole blood sample.

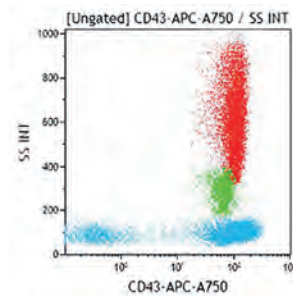
### Clone: SZ2 (IgG1 Mouse)

The SZ2 monoclonal antibody prevents the ristocetin-dependent binding of von Willebrand's factor to platelets and inhibits ristocetin-induced platelet agglutination. Platelet aggregation induced by type I collagen and Platelet Activating Factor (PAF) is also inhibited. The SZ2 antibody immunoprecipitates the components of the GPIb complex. It may also be used in Western blot.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0648U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1417U</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B13980</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0409</b>	RUO	-	cGMP

## CD43

The CD43 antigen is a 95-135 kDa heavily O-glycosylated and sialylated single chain membrane glycoprotein. This cell surface mucin-type glycoprotein is also called leukosialin or sialophorin. CD43 antigen is expressed by T lymphocytes, plasma cells, neutrophils, weakly on resting B lymphocytes but highly after activation, and on platelets. A soluble form of CD43 (galactoglycoprotein) can be detected in plasma. This form is produced by proteolytic shedding of the extracellular portion of the membrane molecule after cell activation. Studies, coupled with recent evidence that CD43 influences cellular adhesion, indicate that differential expression of CD43 may play a role in monocyte/macrophage trafficking.



Lysed normal whole blood sample.

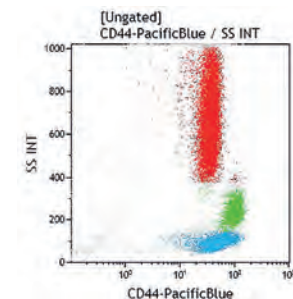
### Clone: DFT1 (IgG1 Mouse)

The DFT1 antibody reacts with an extracellular epitope of the CD43 antigen. It is useful for detecting leucocytes by flow cytometry and immunohistochemistry on routinely-fixed and paraffin-embedded tissue sections. The DFT1 antibody is also able to induce homotypic adhesion of leucocytes. DFT1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon and Ovine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM3264U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>A32560</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	50 tests	Liquid	<b>B49195</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	0.5 mL	Liquid	<b>A89307</b>	ASR	IOTest	cGMP

## CD44

The CD44 is a transmembrane glycoprotein of 85-200 kDa. Multiple CD44 isoforms have been described. CD44 is present on most cells or tissues, but not on platelets, hepatocytes, cardiac muscle, kidney tubular epithelium, testis and skin portions. CD44 is a signaling platform that integrates cellular microenvironmental cues with growth factor and cytokine signals. It transduces signals to membrane-associated cytoskeletal proteins or to the nucleus to regulate a variety of gene expression levels related to cell-matrix adhesion, cell migration, proliferation, differentiation, and survival. This cell adhesion molecule plays an important role in tumor progression and metastasis. Its role in tumorigenesis is due to its binding to extracellular matrix components, including hyaluronan (HA) and osteopontin (OPN), and to messenger molecules, such as growth factors present in the tumor microenvironment. The human Indian (In) blood group antigens a/b reside on CD44.



Lysed normal whole blood sample.

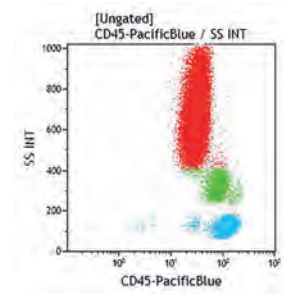
### Clone: J.173 (IgG1 Mouse)

J.173 antibody does not inhibit the binding of hyaluronate to its receptor. It can trigger IL-2-dependent proliferation and cytotoxicity of human T cell clones *in vitro*. J.173 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B37789</b>	ASR	IOTest	cGMP
<b>FITC</b>	2 mL	Liquid	<b>IM1219U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>A32537</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B30637</b>	ASR	IOTest	cGMP

## CD45

CD45 is a protein tyrosine phosphatase regulating src-family kinases which is expressed on all hematopoietic cells. CD45 can be expressed as one of at least five isoforms (from 180 to 220 kDa) by alternative splicing of exons that comprise the extracellular domain. The non-restricted CD45, Leucocyte Common Antigen (LCA) consists of an extracellular sequence, proximal to the membrane, which is common to all CD45 isoforms. All the monoclonal antibodies that belong to the CD45 cluster react with this part of the antigen and are able to recognize all CD45 isoforms. The non-restricted CD45 epitope is present on the surface of all human leucocytes, lymphocytes, eosinophils monocytes, basophils and neutrophils by order of decreasing level of expression. It is absent from erythrocytes and platelets. It is lost during maturation of erythroid cells in the bone marrow. CD45 antibodies react with leucocyte progenitors in bone marrow.



Lysed normal whole blood sample.

## Clone: KC56 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	0.5 mL	Liquid	<b>6604104</b>	ASR	CYTO-STAT	cGMP
<b>FITC</b>	1 mg	Freeze-dried	<b>6603838</b>	ASR	COULTER CLONE	cGMP
<b>RD1</b>	0.5 mL	Liquid	<b>6603839</b>	ASR	COULTER CLONE	cGMP

## Clone: ALB12 (IgG1 Mouse)

The ALB12 antibody recognizes a carbohydrate epitope and should not be used for side scatter versus CD45 gating strategy in flow cytometry.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0647</b>	ASR	IOTest	cGMP

## Clone: Immu19.2 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>IM1833</b>	RUO	IOTest	cGMP
<b>PC5</b>	1 mL	Liquid	<b>IM2652U</b>	ASR	IOTest	cGMP

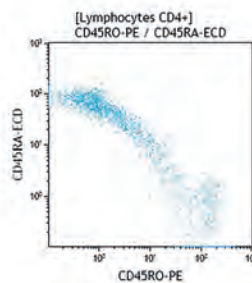
## Clone: J33 (IgG1 Mouse)

J33 was assigned to CD45 cluster in HLDA 3 under the name I-33 (antibody # 818).

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	100 tests	Liquid	<b>A74763</b>	CE/IVD	IOTest	IVDR
<b>PB</b>	1 mL	Liquid	<b>A74765</b>	ASR	IOTest	cGMP
<b>KrO</b>	100 tests	Liquid	<b>B36294</b>	CE/IVD	IOTest	IVDR
<b>KrO</b>	1 mL	Liquid	<b>A96416</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>A07782</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0782U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07783</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM2078U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>A07784</b>	CE/IVD	IOTest	IVDR
<b>ECD</b>	1 mL	Liquid	<b>IM2710U</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>A07785</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM2653U</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	100 tests	Liquid	<b>A62835</b>	CE/IVD	IOTest	IVDR
<b>PC5.5</b>	1 mL	Liquid	<b>A54139</b>	ASR	IOTest	cGMP
<b>PC7</b>	100 tests	Liquid	<b>IM3548</b>	CE/IVD	IOTest	IVDR
<b>PC7</b>	1 mL	Liquid	<b>IM3548U</b>	ASR	IOTest	cGMP
<b>APC</b>	100 tests	Liquid	<b>IM2473</b>	CE/IVD	IOTest	IVDR
<b>APC</b>	1 mL	Liquid	<b>IM2473U</b>	ASR	IOTest	cGMP
<b>AF647</b>	1 mL	Liquid	<b>A94246</b>	ASR	IOTest	cGMP
<b>APC-A700</b>	100 tests	Liquid	<b>A79390</b>	CE/IVD	IOTest	IVDR
<b>APC-A700</b>	1 mL	Liquid	<b>A71117</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	100 tests	Liquid	<b>A79392</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	1 mL	Liquid	<b>A71119</b>	ASR	IOTest	cGMP

## CD45RA

CD45RA epitopes are present on all the CD45 restricted molecules in which the exon A is expressed (ABC and AB containing isoforms). Most B lymphocytes express CD45RA isoforms. The differential expression of CD45 isoforms is associated with different functional properties of T lymphocytes. Peripheral T lymphocytes can be divided into two largely distinct populations of CD45RA<sup>+</sup> CD45RO<sup>+</sup> and CD45RA<sup>+</sup> CD45RO<sup>-</sup> cells. CD45RA is expressed by medullar thymocytes and naïve/resting peripheral CD4<sup>+</sup> T lymphocytes.



Lysed normal whole blood sample gated on CD4 positive lymphocytes. CD45RA-ECF in dual staining with CD45RO-PE.

### Clone: 2H4LDH11LDB9 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>A82946</b>	ASR	IOTest	cGMP
<b>RD1</b>	100 tests	Liquid	<b>6603181</b>	RUO	COULTER CLONE	cGMP
<b>ECD</b>	100 tests	Liquid	<b>B49193</b>	CE/IVD	IOTest	IVDR
<b>ECD</b>	1 mL	Liquid	<b>IM2711U</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B10821</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B14807</b>	ASR	IOTest	cGMP
<b>AF700</b>	0.5 mL	Liquid	<b>B90396</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	50 tests	Liquid	<b>B49194</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	0.5 mL	Liquid	<b>A86050</b>	ASR	IOTest	cGMP

### Clone: ALB11 (IgG1 Mouse)

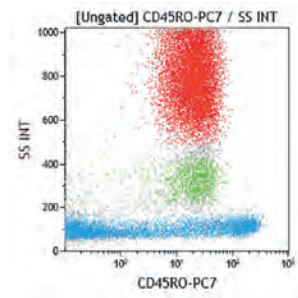
ALB11 cross reacts with: Ovine, Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>A07786</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM0584U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1834U</b>	ASR	IOTest	cGMP



## CD45RO

The CD45RO molecule is the 180 kDa isoform of CD45 Leucocyte Common Antigen (LCA). The expression of the CD45RA/CD45RO isoforms of CD45 is associated with functional differentiation of T lymphocytes. CD45RO is expressed by cortical thymocytes, CD4<sup>+</sup> memory T lymphocyte subset and activated T lymphocytes. CD45RO is weakly expressed on monocytes and granulocytes.



Lysed normal whole blood sample.

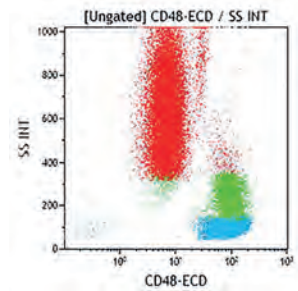
### Clone: UCHL1 (IgG2a Mouse)

UCHL1 cross reacts with: Mink, Trout, Carp.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1247U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07787</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM1307U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>B49192</b>	CE/IVD	IOTest	IVDR
<b>ECD</b>	1 mL	Liquid	<b>IM2712U</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B30638</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B13648</b>	ASR	IOTest	cGMP

## CD48

The CD48 antigen is a glycosyl phosphatidylinositol- (GPI)-anchored membrane glycoprotein of 40-47 kDa with 2 extracellular immunoglobulin (Ig)-like domains. CD48 belongs to the Ig superfamily. CD48, expressed on all lymphocytes and monocytes, has been shown to be a low affinity ligand for CD2, suggesting a role in leucocyte adhesion. CD48 may participate in CD40-mediated activation of B cells.



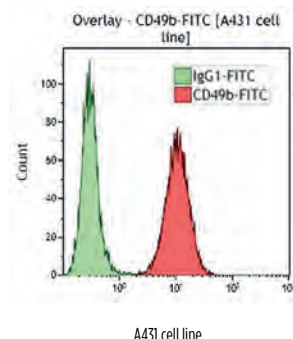
Lysed normal whole blood sample.

### Clone: J4.57 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1837U</b>	ASR	IOTest	cGMP
<b>ECD</b>	0.5 mL	Liquid	<b>B06026</b>	ASR	IOTest	cGMP

## CD49b

The CD49b antigen is a transmembrane glycoprotein of 150 kDa also known as the  $\alpha$ -2 integrin and as platelet GPIa. CD49b non-covalently pairs with the  $\beta$ -1 integrin (CD29, GPIIa) to form the VLA-2 (very late activation antigen) complex. CD49b, was first identified as an extracellular matrix receptor for collagens and/or laminins. It is now recognized that the  $\alpha$ 2 $\beta$ 1 integrin serves as a receptor for many matrix and nonmatrix molecules. Extensive analyses have defined distinct conformations that lead to inactive, partially active or highly active ligand binding. The mechanisms by which the  $\alpha$ 2 $\beta$ 1 integrin plays a critical role in platelet function and homeostasis have been carefully defined. Studies have confirmed human physiology and disease states mediated by this receptor in immunity, cancer, and development. CD49b is expressed by platelets, activated T lymphocytes and thymocytes.



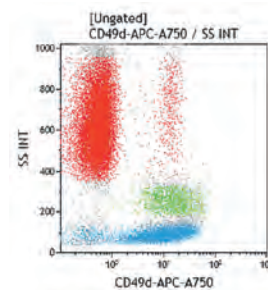
### Clone: Gi9 (IgG1 Mouse)

The Gi9 antibody reacts with the molecule carrying the Br(a) as well as the Br(b) alloantigen. This antibody inhibits the adhesion of platelets to collagen. It detects human alloantibodies (anti-Br a,b) against VLA-2 by MAIPA assay. Gi9 was used as a CD49b reference monoclonal antibody during the HLDA 6. Gi9 reacts with platelets and weakly with monocytes. It also stains most adherent cell lines and T lymphocytes in culture.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>IM1425</b>	RUO	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0717</b>	RUO	-	cGMP

## CD49d

CD49d is the integrin  $\alpha$ 4 chain that non-covalently pairs with CD29 ( $\beta$ 1 chain) to form the very late activation antigen 4 (VLA-4), or with the integrin  $\beta$ 7 chain. CD49d is a transmembrane glycoprotein of 145 kDa devoid of disulfide bond. Complexed to  $\beta$ 1 or  $\beta$ 7 integrins, CD49d is not only involved in cell adhesion to fibronectin and vascular cell adhesion molecule 1 (VCAM-1), but also in intercellular leucocyte interactions. It is expressed by monocytes, lymphocytes, eosinophils, thymocytes and Langerhans cells.



Lysed normal whole blood sample.

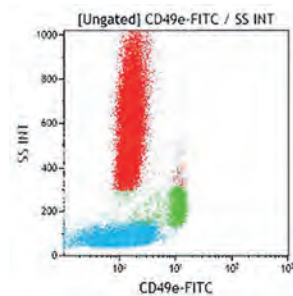
### Clone: HP2/1 (IgG1 Mouse)

The HP2/1 antibody blocks the interaction of VLA-4 with VCAM-1. HP2/1 was used as a CD49d reference monoclonal antibody during the HLDA 6. HP2/1 cross reacts with: Indian Rhesus and Bovine, Ovine, Caprine, Equine, Canine, Feline, Mink, Llama, Rabbit, Carp.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1404U</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B01682</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B16893</b>	ASR	IOTest	cGMP

## CD49e

The CD49e antigen is the 160 kDa integrin  $\alpha 5$ -chain, which is composed of a heavy chain (135 kDa) and a light chain (25 kDa), linked by a disulfide bond. CD49e is non-covalently associated with the 130 kDa integrin  $\beta 1$ -chain (CD29 molecule), forming the VLA-5 complex. CD49e is expressed by monocytes, platelets and two myeloid cell lines (U937, K562). It is known as the fibronectin and invasin receptor. It is useful for basic studies of fibronectin-mediated adhesion.



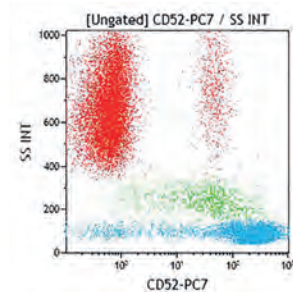
Lysed normal whole blood sample.

Clone: SAM1 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1854U</b>	ASR	IOTest	cGMP

## CD52

CD52, also called CAMPATH-1, is a 21-28 kDa glycopeptide anchored to the membrane by a glycosylphosphatidylinositol (GPI) structure. The mature CD52 antigen is a very small protein (12 aminoacids) of 8-9 kDa. CD52 is expressed on lymphocytes, monocytes, macrophages and on epithelial cells of male reproductive tract, shed into seminal plasma and acquired by spermatozoa. Physiological role of CD52 on lymphocytes is unclear, although CAMPATH-1 antibody is capable of complement activation and it has been used in lympho proliferative disorders. Monoclonal antibodies directed against sperm may cause sperm immobilization and agglutination.



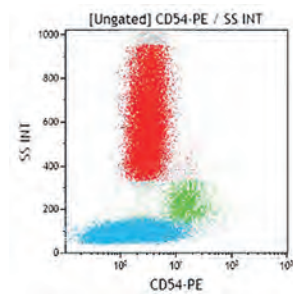
Lysed normal whole blood sample.

Clone: HI186 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PC7</b>	0.5 mL	Liquid	<b>B68152</b>	ASR	IOTest	cGMP

## CD54

The CD54 antigen, previously known as ICAM-1 (InterCellular Adhesion Molecule-1), is a 90 kDa transmembrane glycoprotein. With seven potential N-linked glycosylation sites, its structure, as that of CD50 (ICAM-3) and CD102 (ICAM-2), is related to the Immunoglobulin family. The CD54 antigen mediates the adhesion of T lymphocytes with Antigen-Presenting Cells (APC) and is involved in T cell to T cell and T cell to B cell interactions. It is also involved in the adhesion of monocytes, lymphocytes and neutrophils to activated endothelium. It binds to the integrins LFA-1 (CD11a/CD18) and Mac-1 (CD11b/CD18). It is a receptor for the rhinovirus. It is expressed by endothelial cells and by many other cell types upon activation.



Lysed normal whole blood sample.

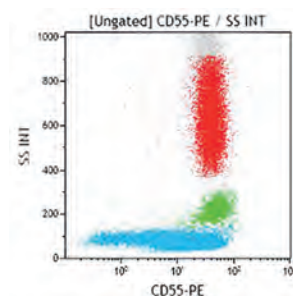
### Clone: 84H10 (IgG1 Mouse)

84H10 antibody inhibits ICAM-1 mediated adhesion to LFA-1. 84H10 cross reacts with: Canine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0726U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1239U</b>	ASR	IOTest	cGMP

## CD55

The CD55 antigen is a single chain glycosyl-phosphatidyl-inositol (GPI)-anchored, cell surface protein. This molecule undergoes post-transcriptional and post-translational modification resulting in a heterogeneous molecular weight ranging from 55 to 80 kDa. The CD55 antigen, also named Decay Accelerating Factor (DAF) is involved in the regulation of both alternative and classical complement pathways. C3b/C3Bb and C4b/C4b2a convertases, as well as echovirus, coxsackie B virus and CD97 are reported to interact with CD55. Like other GPI-anchored proteins, CD55 is associated in the cytoplasmic compartment with tyrosine kinases allowing signal transduction. The CD55 molecule is widely expressed on human cells including leucocytes, erythrocytes and platelets. CD55 is weakly expressed on NK cells.



Lysed normal whole blood sample.

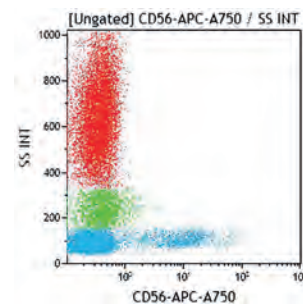
### Clone: JS11KSC2.3 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM2725</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>B49190</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM2726</b>	ASR	IOTest	cGMP



## CD56 (N-CAM)

The CD56 antigen is a 140 kDa isoform of the Neural Cell Adhesion Molecule (N-CAM). Post-translational modifications to the polypeptide include N- and O- glycosylations, acylation, sulphation and phosphorylation. The different N-CAM isoforms have molecular weights ranging from 135 to 220 kDa. The CD56 antigen is moderately expressed on a subpopulation of peripheral blood large granular lymphocytes and on all cells with NK activity. It is also expressed by subsets of T lymphocytes. CD56 antibodies do not react with granulocytes, monocytes or B cells.



Lysed normal whole blood sample.

### Clone: N901 (IgG1 Mouse)

The N901 (NKH-1) antibody was used as a CD56 reference mAb during HLDA 6. N901 cross reacts with: Hamadryas Baboon.

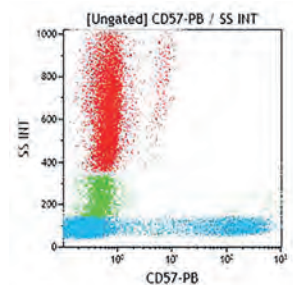
Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C76801</b>	RUO	IOTest	cGMP	<b>NEW</b>
<b>PE</b>	100 tests	Liquid	<b>A07788</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>IM2073U</b>	ASR	IOTest	cGMP	
<b>RD1</b>	0.5 mL	Liquid	<b>6603067</b>	ASR	COULTER CLONE	cGMP	
<b>RD1</b>	0.5 mL	Liquid	<b>6603857</b>	ASR	CYTO-STAT	cGMP	
<b>ECD</b>	100 tests	Liquid	<b>B49214</b>	CE/IVD	IOTest	IVDR	
<b>ECD</b>	1 mL	Liquid	<b>A82943</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A07789</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	1 mL	Liquid	<b>IM2654U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	50 tests	Liquid	<b>B49189</b>	CE/IVD	IOTest	IVDR	
<b>PC5.5</b>	0.5 mL	Liquid	<b>A79388</b>	ASR	IOTest	cGMP	
<b>PC7</b>	100 tests	Liquid	<b>A21692</b>	CE/IVD	IOTest	IVDR	
<b>PC7</b>	1 mL	Liquid	<b>A51078</b>	ASR	IOTest	cGMP	
<b>APC</b>	100 tests	Liquid	<b>IM2474</b>	CE/IVD	IOTest	IVDR	
<b>APC</b>	1 mL	Liquid	<b>IM2474U</b>	ASR	IOTest	cGMP	
<b>APC-A700</b>	50 tests	Liquid	<b>B92446</b>	CE/IVD	IOTest	IVDR	
<b>APC-A700</b>	0.5 mL	Liquid	<b>B10822</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	0.5 mL	Liquid	<b>B46024</b>	ASR	IOTest	cGMP	

### Clone: C218 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM1844</b>	RUO	-	cGMP

## CD57

The CD57 antigen (HNK-1 antigen carbohydrate moiety) is an oligosaccharide with sulfated glucuronic acid residues that may be linked to a variety of polypeptides or lipids. In peripheral blood, it is found on a subset of cells with natural killer activity. It is confined to mononuclear cells, primarily large granular lymphocytes. Many of these CD57<sup>+</sup> cells co-express the CD8 antigen and are a subset of the suppressor / cytotoxic T lymphocytes. Cord blood T cells or NK cells lack the CD57 antigen. It is not expressed on red blood cells or on platelets but is present on some neuroectodermal tissues.



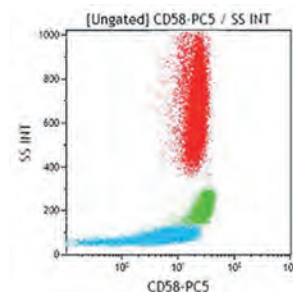
Lysed normal whole blood sample.

### Clone: NC1 (IgM Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	A74779	ASR	IOTest	cGMP
FITC	100 tests	Liquid	B49188	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM0466U	ASR	IOTest	cGMP

## CD58

CD58 is a glycoprotein of 65-70 kDa, either transmembrane or glycosylphosphatidylinositol (GPI)-anchored. CD58 was first described as the lymphocyte-function associated antigen 3 (LFA-3). LFA-3 was further shown to interact with CD2 suggesting an important role in various immunological responses via T-cell adhesion and activation. CD58 activate the costimulation pathways of T lymphocytes and natural killer (NK) cells, maximizing the cytotoxicity of target cells by cytotoxic T lymphocytes (CTL) and NK cells. This antigen is widely expressed on leucocytes, erythrocytes and endothelial cells.



Lysed normal whole blood sample.

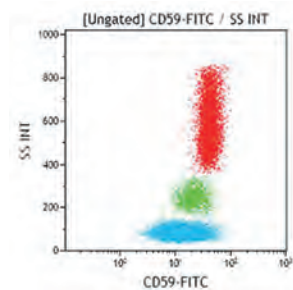
### Clone: AICD58 (IgG2a Mouse)

The AICD58 antibody is a blocking antibody in LFA-3 mediated adhesion. This antibody was used as a CD58 reference mAb during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	2 mL	Liquid	IM1218U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM1430	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM3702	ASR	IOTest	cGMP
APC	1 mL	Liquid	IM3701	ASR	IOTest	cGMP

## CD59

The CD59 antigen, also known as Protectin or Membrane Inhibitor of Reactive Lysis (MIRL) is a 18-20 kDa, single-chain, glycosylphosphatidylinositol (GPI)-anchored cell surface protein. CD59 inhibits complement lysis by binding to the C5b-8 and C5b-9 complexes and thus preventing formation of the polymeric C9 complex during the final steps of membrane attack complex (MAC). CD59 is expressed on all haematopoietic cells and is widely expressed on cells in all tissues. Studies of the susceptibility of HIV-1, HTLV-1 and HCMV to complement (C)-mediated lysis suggest that viruses incorporate host cell-derived C regulatory proteins such as CD59 and CD55, a mechanism by which a variety of enveloped viruses may acquire resistance to C-mediated lysis.



Lysed normal whole blood sample.

### Clone: P282E (IgG2a Mouse)

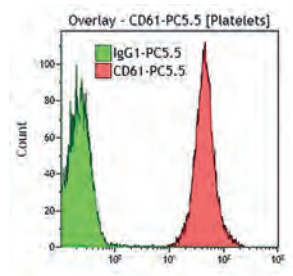
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>B49187</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM3457U</b>	ASR	IOTest	cGMP

### Clone: MEM-43 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>B68140</b>	ASR	IOTest	cGMP

## CD61

The CD61 antigen (platelet glycoprotein GPIIb) is the 110 kDa integrin  $\beta 3$  subunit, covalently associated with the integrin  $\alpha$ Ib chain (CD41, platelet GPIIb) to form the GPIIb-IIIa complex ( $\alpha$ Ib- $\beta 3$  integrin). Independently of CD41, CD61 is also associated with the integrin  $\alpha$ V (CD51) to form the vitronectin receptor. CD41/CD61 is expressed only by platelets and megakaryocytes, whereas CD51/CD61 is found on osteoclasts, endothelial cells, macrophages, fibroblasts, smooth muscle, synovial lining cells and renal glomeruli.



Platelet rich plasma (PRP) from a normal whole blood sample.

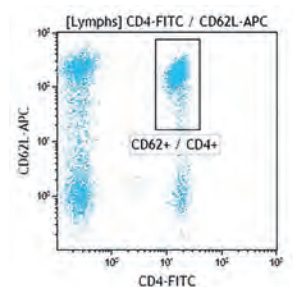
### Clone: SZ21 (IgG1 Mouse)

The SZ21 antibody is specific for the PIA1, not the PIA2 form of GPIIb. It inhibits platelet aggregation and secretion induced by collagen, arachidonic acid, and thrombin. This antibody also inhibits fibrinogen binding to human platelets induced by ADP, arachidonic acid and PAF.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>IM1758</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM1758U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM3605</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B21172</b>	ASR	IOTest	cGMP
<b>PC7</b>	1 mL	Liquid	<b>IM3716</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0540</b>	RUO	-	cGMP

## CD62L

The CD62L antigen, also called LECAM-1, L-selectin or leucocyte adhesion molecule 1 [LAM-1], is a 75 kDa molecule, member of the selectin family. As other selectins (CD62E, CD62P), CD62L is a membrane-anchored Ca<sup>2+</sup>-dependent C-type lectin that binds to cell-surface carbohydrate ligands. CD62L acts as the peripheral lymph node homing receptor. It is also involved in lymphocyte binding to High Endothelial Venules (HEV) and in lymphocyte rolling on activated endothelium. CD62L is expressed by B and T lymphocytes, monocytes, neutrophils, eosinophils, and approximately half of the peripheral NK lymphocytes. It is also expressed by some spleen and bone marrow lymphocytes, as well as by some thymocytes and bone marrow myeloid cells. The expression level of CD62L on lymphocytes may be subject to control mechanisms such as downregulation and/or upregulation. On neutrophils, monocytes and their bone marrow precursors, CD62L is also downregulated by stimulation with granulocyte-macrophage colony stimulating factor (GM-CSF).



Lysed normal whole blood sample. Gated on lymphocytes.

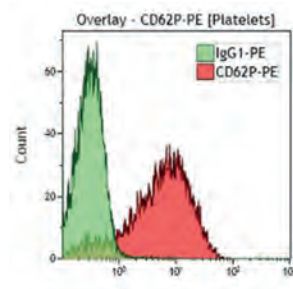
### Clone: DREG56 (IgG1 Mouse)

In contrast to other antibodies recognizing this molecule, DREG56 is particularly effective in blocking CD62L mediated lymphocyte binding to lymph node HEV. DREG56 (ref.33) was used as a CD62L reference monoclonal antibody during the HLDA 6. DREG56 cross reacts with: Chimpanzee and Bovine.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B30640	ASR	IOTest	cGMP
FITC	2 mL	Liquid	IM1231U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM2214U	ASR	IOTest	cGMP
ECD	1 mL	Liquid	IM2713U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM2655U	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B30641	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B30639	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B26604	ASR	IOTest	cGMP

## CD62P

The CD62P antigen (P-selectin/GMP-140/PADGEM) is a member of the selectin family. Like other selectins (CD62E and CD62L), CD62P contains an amino terminal lectin-like domain, followed by an EGF domain, nine short consensus repeats (SCR), a transmembrane domain and a short cytoplasmic domain. CD62P (140 kDa) is present in megakaryocytes, in Weibel-Palade bodies of endothelial cells and in  $\alpha$ -granules of platelets. CD62P is translocated to the surface membrane upon in vitro and in vivo activation. CD62P is involved in the interaction between activated platelets and with monocytes and neutrophils.



Platelet rich plasma (PRP) from a normal whole blood sample.

### Clone: CLB-Thromb/6 (IgG1 Mouse)

The CLB-Thromb/6 antibody recognizes the boundary region between the lectin and EGF-like domains, which is preserved after platelet fixation. It inhibits platelet adhesion to eosinophils in cell adhesion assays.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Liquid	A07790	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1759U	ASR	IOTest	cGMP

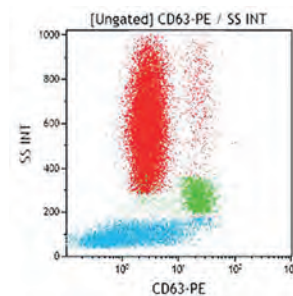


## CD63

The CD63 antigen, also known as lysosomal membrane associated glycoprotein 3 (LAMP3), is a member of the tetraspanin (TM4SF) family. Nearly 20 genes encode tetraspanins whose main structural characteristics is their four transmembrane domains. CD63, as other tetraspanins (CD9, CD81, CD82), has recently been reported as forming complexes with VLA-3 and phosphatidylinositol 4-kinase, with VLA-6, CD11/CD18 and tyrosine kinase. CD63 was first described in granules of resting platelets and on the surface membrane on activated platelets. CD63 was later identified as granulophysin, a platelet dense granule glycoprotein. The molecular weight of the platelet form of CD63 ranges from 40 to 55 kDa. CD63 has been found to be identical to the ME491 antigen expressed by melanoma cells. It is also found on monocytes / macrophages and is weakly expressed by resting granulocytes, T lymphocytes and B lymphocytes. CD63 antigen, present in azurophilic granules of non-stimulated neutrophils, is strongly expressed on the surface of neutrophils after activation. Studies have shown that CD63 may be a marker for granule release. This phenomenon is also reported for basophils.

### Clone: CLB-Gran/12 (IgG1 Mouse)

The CD63 antibodies inhibit adhesion of neutrophils to activated endothelium. CLBGran/12 was used as a CD63 reference monoclonal antibody during HLDA 6.

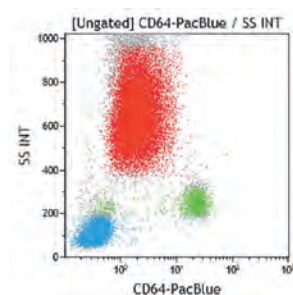


Lysed normal whole blood sample.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>B92467</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM1165U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1914U</b>	ASR	IOTest	cGMP

## CD64

CD64 is an integral membrane glycoprotein known as an Fc receptor that binds monomeric IgG-type antibodies with high affinity. It is also known as Fc-gamma receptor 1 (FcγRI) or FCRI. After binding IgG, CD64 interacts with an accessory chain known as the common γ chain, triggering cellular activation. Structurally, CD64 is composed of a signal peptide that allows its transport to the surface of a cell, three extracellular immunoglobulin domains of the C2-type used to bind antibody, a hydrophobic transmembrane domain, and a short cytoplasmic tail. CD64 is constitutively found on macrophages and monocytes. CD64 is expressed on early myeloid cells and in IFNγ and G-CSF activated polymorphonuclear neutrophils (PMNs).



Lysed normal whole blood sample.

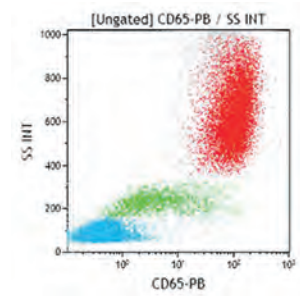
### Clone: 22 (IgG1 Mouse)

The 22 antibody shows especially high affinity binding to human mononuclear phagocytes. The epitope recognized by this antibody is distinct from the IgG binding site. 22 cross reacts with: Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B19718</b>	ASR	IOTest	cGMP
<b>FITC</b>	100 tests	Liquid	<b>B49185</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM1604U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM3601U</b>	ASR	IOTest	cGMP
<b>ECD</b>	0.5 mL	Liquid	<b>A98434</b>	ASR	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>B49186</b>	CE/IVD	IOTest	IVDR
<b>PC5</b>	1 mL	Liquid	<b>IM3606U</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B06025</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	50 tests	Liquid	<b>B96769</b>	CE/IVD	IOTest	IVDR
<b>APC-A750</b>	0.5 mL	Liquid	<b>A89308</b>	ASR	IOTest	cGMP

## CD65

The CD65 antigen is analogous to the carbohydrate structure(s) recognized by CD15 antibodies. CD65 is a type II chain fucoganglioside involving the oligosaccharide sequence: Gal $\beta$ 1-4GlcNac $\beta$ 1-3Gal $\beta$ 1-4GlcNac(Fuc $\alpha$ 1-3) $\beta$ 1-R. CD65 has been suggested as the CD62L ligand, and it has been hypothesized to be involved in the extra vascular infiltration. CD65 is normally expressed on neutrophils, eosinophils, and basophils, on a monocyte subset and on a fraction of CD56<sup>bright</sup> NK cells. It is not expressed on lymphocytes. CD65 is also found on the membrane of adipocytes and on thymic epithelium but it is not expressed by mastocytes. In myeloid ontogenesis, CD65 seems to be expressed later than myeloperoxidase (MPO).



Lysed normal whole blood sample.

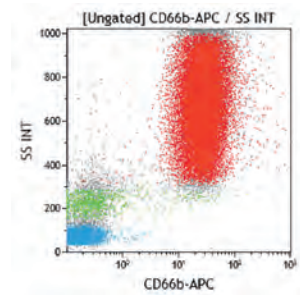
### Clone: 88H7 (IgM Mouse)

88H7 antibody was re-assigned from the CD65s to the CD65 cluster during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B08164	ASR	IOTest	cGMP
FITC	100 tests	Liquid	B36299	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM1654U	ASR	IOTest	cGMP

## CD66b

The CD66 antigens were originally described as granulocyte-specific activation antigens, related to the carcino-embryonic antigen (CEA) previously described on colon cancer cells. The CEA/CD66 gene group belongs to the immunoglobulin (Ig) gene superfamily. Among the CD66 cluster, CD66b (also known as CGM6) is a glycosyl-phosphatidylinositol (GPI)-anchored glycoprotein of 95-100 kDa. CD66b is thought to play a role in the regulation of the adhesive activity of CD11/CD18 via signal transduction in neutrophils. It is strongly expressed by myelocytes, metamyelocytes, neutrophils and polymorphonuclear neutrophils. CD66b is weakly expressed by promyelocytes.



Lysed normal whole blood sample.

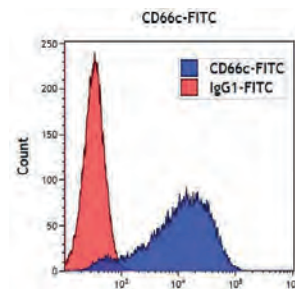
### Clone: 80H3 (IgG1 Mouse)

The 80H3 antibody does not react with peripheral lymphocytes and monocytes.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	2 mL	Liquid	IM0531U	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B15091	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B08756	ASR	IOTest	cGMP

## CD66c (KOR-SA3544)

The CD66c antigen, also known as non-specific cross-reacting antigen (NCA90), is a granulocyte cell surface GPI-linked protein of 80-100 kDa. It is also called KOR-SA3544. Along with CD66a, CD66b and CD66d, it is a member of the carcinoembryonic (CEA) antigen family which are involved in neutrophil activation and signaling and intercellular adhesion. It is also called CEACAM6. CD66c is a surface (and intracellular) molecule bound to the membrane by a glycosyl-phosphatidylinositol anchor. While its expression on peripheral granulocytes is well recognized, less is known about its distribution in early steps of normal and neoplastic hematopoiesis. It is not expressed by lymphocytes, monocytes, platelets or red blood cells. This antigen is never expressed by normal B cells.



Abnormal bone marrow sample. Graph kindly provided by The University of Tokyo Hospital.

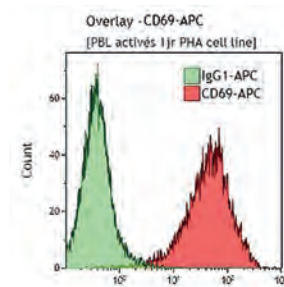
### Clone: KOR-SA3544 (IgG1 Mouse)

In peripheral blood, the KOR-SA3544 antibody reacts with the majority of granulocytes but not with lymphocytes, monocytes, platelets or red blood cells. In normal bone marrow, only the myeloid cells are positive.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM2039U</b>	ASR	-	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2357U</b>	ASR	-	cGMP

## CD69

The CD69 antigen is a 60 kDa disulfide-linked dimeric structure, known as activation inducer molecule (AIM). This structure contains two differentially glycosylated forms (33 and 27 kDa) of a single core protein, that are covalently associated. This activation antigen is one of the earliest appearing cell surface glycoproteins (before other activation antigens such as IL2-R) after T or B-lymphocyte activation but is absent in resting lymphocytes. It is also expressed by activated macrophages, NK cells and other cell types including neutrophils, eosinophils and platelets. Its expression in vitro can be induced by different factors such as PMA, PHA or CD3 monoclonal antibodies.



PHA cell line.

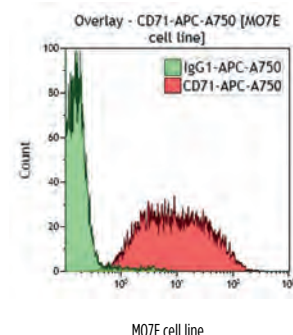
### Clone: TP1.55.3 (IgG2b Mouse)

The CD69 antibody is useful in combination with CD4, CD8 and CD3 antibodies for T cell activation studies. The TP1.55.3 antibody immunoprecipitates the 60 kDa homodimer and both 27 kDa and 33 kDa subunits from activated peripheral blood lymphocytes under reduced and non-reduced conditions.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	2 mL	Liquid	<b>IM1943U</b>	ASR	IOTest	cGMP
<b>ECD</b>	100 tests	Liquid	<b>6607110</b>	RUO	IOTest	cGMP
<b>PC5</b>	100 tests	Liquid	<b>IM2656</b>	CE/IVD	IOTest	IVDR
<b>PC7</b>	1 mL	Liquid	<b>A80710</b>	ASR	IOTest	cGMP
<b>APC</b>	1 mL	Liquid	<b>A80711</b>	ASR	IOTest	cGMP

## CD71

The CD71 antigen is known as the transferrin receptor. It mediates cellular iron uptake via internalization and recycling. It is a type II membrane glycoprotein, characterized as a disulfide-bound dimer of two identical subunits of 95 kDa each. CD71 is expressed on activated T and B lymphocytes, macrophages and erythroblasts. The N-Terminal, intracytoplasmic domain of CD71 mediates rapid endocytosis and self recycling. CD71 is absent from resting blood leucocytes. Its expression is upregulated on proliferating cells. CD71 is present on reticulocytes and erythroid progenitors in fetal liver, cord blood, and peripheral blood, yet it is lost as these differentiate to mature erythrocytes. CD71 is expressed on marrow stromal cells (MSCs) from bone marrow.



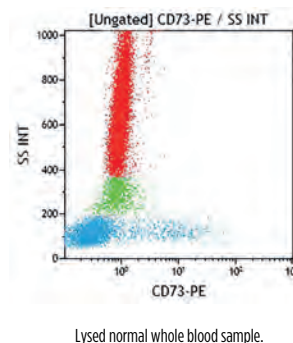
### Clone: YDJ1.2.2 (IgG1 Mouse)

YDJ1.2.2 cross reacts with: Cynomolgus Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C84712</b>	RUO	IOTest	cGMP	available Q2
<b>FITC</b>	100 tests	Liquid	<b>IM0483</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM0483U</b>	ASR	IOTest	cGMP	
<b>PE</b>	2 mL	Liquid	<b>IM2001U</b>	ASR	IOTest	cGMP	
<b>APC-A700</b>	0.5 mL	Liquid	<b>A97051</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	0.5 mL	Liquid	<b>A89313</b>	ASR	IOTest	cGMP	

## CD73

CD73 is a 5'-nucleotidase anchored to the membrane by a glycosylphosphatidylinositol (GPI) structure. It catalyzes the dephosphorylation of purine and pyrimidine ribo- and deoxyribonucleoside mono phosphates to their corresponding nucleosides. CD73 is a dimer of two identical 70 kD subunits. A soluble form of CD73 can be shed from the membrane through proteolytic cleavage or hydrolysis of the GPI anchor by phosphatidylinositol-specific phospholipase. CD73 is expressed on subsets of T and B cells, follicular dendritic cells and on epithelial and endothelial cells. CD73 regulates the availability of adenosine by converting AMP to adenosine. The expression and function of this enzyme are upregulated under hypoxic conditions, as well as by the presence of several pro-inflammatory mediators, such as TGF- $\beta$ , IFNs, TNF- $\alpha$ , IL-1  $\beta$  and prostaglandin E2. CD73 can transmit activation signals to T cells and mediates adhesion of lymphocytes to follicular dendritic cells and endothelial cells. The CD73/adenosine pathway is a potent additional suppressive pathway of Treg cells and also confers a suppressive anti-inflammatory function on the uncommitted primed precursor Thpp cell type.



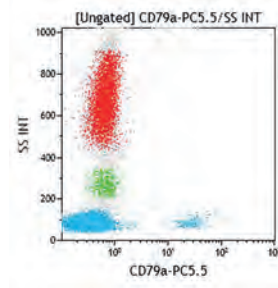
### Clone: AD-2 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>B68176</b>	ASR	IOTest	cGMP



## CD79a

The CD79a molecule (MB-1, Ig $\alpha$ ) is part of the MB-1/B29 (CD79a/CD79b) disulfide-linked heterodimer which is non-covalently associated with membrane immunoglobulins (Igs) to build the B Cell antigen Receptor (BCR) complex. CD79a is a 40-45 kDa glycoprotein and belongs to the Ig superfamily of surface antigens. CD79a protein is specifically and strictly expressed throughout B lymphocyte differentiation. It appears early in ontogeny, probably before expression of cytoplasmic  $\mu$ -chain, and is present in the cytoplasm of plasma cells.



Permeabilized normal whole blood sample.

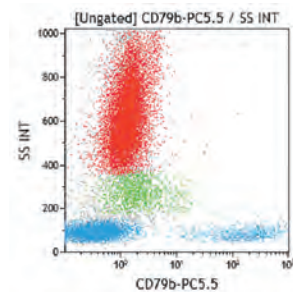
### Clone: HM47 (IgG1 Mouse)

The HM47 antibody is recommended to be used in flow cytometry after permeabilization with saponin-based permeabilization reagent IntraPrep. The HM47 antibody reacts with a cytoplasmic epitope of the CD79a molecule. HM47 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Chimpanzee, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM2221	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM2221U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM3456U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B42018	ASR	IOTest	cGMP
APC	100 tests	Liquid	B36287	CE/IVD	IOTest	IVDR
APC	1 mL	Liquid	A60793	ASR	IOTest	cGMP

## CD79b

The CD79b molecule (B29, Ig $\beta$ ) is part of the CD79a / CD79b disulfide-linked heterodimer, non-covalently bound to surface immunoglobulins to form B cell receptors (BCR). The molecular weight of CD79b is about 33 to 40 kDa in reducing conditions. The CD79b molecule expression occurs early in B cells ontogeny. It is restricted to B lymphocytes, first appearing on the surface at the pre-B cell stage and remaining through all stages of B cell differentiation prior to plasma cells. CD79b plays an important role in the regulation of antigen receptor function like the CD3 subunits do with TCR function on T lymphocytes.



Lysed normal whole blood sample.

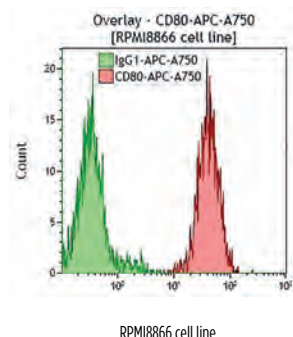
### Clone: CB3-1 (IgG1 Mouse)

The CB3-1 antibody reacts with the external part of the CD79b molecule and is to be used in flow cytometry. This antibody is not suitable for intracytoplasmic staining. For this application the use of the CD79a antibody is recommended. CB3-1 cross reacts with: Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM1612	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1612U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B21445	ASR	IOTest	cGMP
APC	50 tests	Liquid	B96773	CE/IVD	IOTest	IVDR
APC	0.5 mL	Liquid	A87784	ASR	IOTest	cGMP

## CD80

The CD80 antigen (B7, BB1) is a highly glycosylated single-chain protein. Its extracellular domain consists of two Ig-like domains. This 60 kDa molecule shares with CD86 the capability to be the ligand for two structurally similar molecules expressed on T lymphocytes, CD28 and CD152 (CTLA-4). CD80 antigen is expressed on in vitro activated B lymphocytes after 24h stimulation and at maximal level 48-72h post activation. It is not expressed on the majority of resting B cells from peripheral blood but identifies a subpopulation of B cells that has been previously activated. The antigen is also expressed by HTLV-1 transformed T cells and activated monocytes. CD80 binding provides co-stimulatory signals for T cell activation.



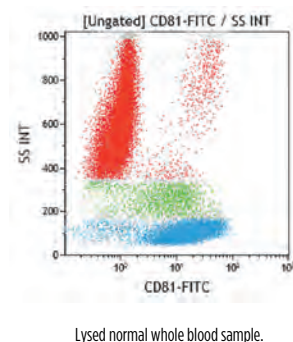
### Clone: MAB104 (IgG1 Mouse)

The MAB104 monoclonal antibody reacts with in vitro activated B lymphocytes, some B cell lines, and weakly with a small proportion of non-activated B cells. This antibody also reacts with activated T cells but not with peripheral monocytes and T cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1853U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM1976U</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B30644</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B30642</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>B30643</b>	ASR	IOTest	cGMP

## CD81

The CD81 molecule is a single chain, 4 transmembrane domain protein (Tetraspan/TM4SF). Both the NH2- and COOH-termini are located inside the cytoplasm, and two loops of the protein sequence are exposed extracellularly. The CD81 antigen is not glycosylated and its molecular weight is 26 kDa. Its tissue distribution is broad. This antigen may be present in some cases as multimolecular complexes, in association with other members of the TM4 superfamily (CD37, CD53) or, on the surface of B cells, in association with CD19 and/or CD21 and/or MHC class II antigens. Most B lymphocytes, at all stages of cellular differentiation, express CD81 at relatively high levels.



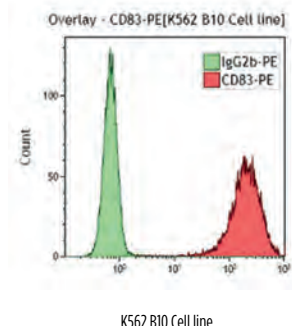
### Clone: JS64 (IgG2a Mouse)

The JS64 antibody reacts with the majority of normal lymphocytes, monocytes and eosinophils. Neutrophils and platelets are negative. JS64 has an anti-proliferative effect on some cell lines, but does not cause apoptosis. JS64 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	0.5 mL	Liquid	<b>B19717</b>	ASR	IOTest	cGMP
<b>FITC</b>	1 mL	Liquid	<b>B25329</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM2579</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A87789</b>	ASR	IOTest	cGMP

## CD83

CD83, or HB15 molecule, is a 43 kDa glycoprotein member of the immunoglobulin superfamily. It is composed of a single extracellular V-type Ig-like domain, a transmembrane region and a 40 amino acid cytoplasmic domain. CD83 is predominantly expressed by dendritic lineage cells including Langerhans cells, skin and peripheral blood dendritic cells. It is also expressed by interdigitating reticulum cells present in the T cell zones of lymphoid organs as well as being weakly expressed by some germinal center lymphocytes. CD83 is expressed by *in vitro* generated dendritic cells. It is not expressed by resting peripheral blood leucocytes at detectable levels and is only expressed at low levels following lymphocyte activation *in vitro*.



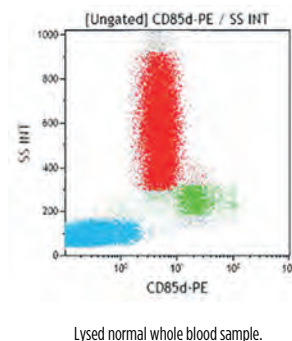
### Clone: HB15a (IgG2b Mouse)

HB15a cross reacts with: Indian Rhesus, Common Marmoset, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM2410U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM2218U</b>	ASR	IOTest	cGMP
<b>PC5</b>	1 mL	Liquid	<b>IM3240U</b>	ASR	IOTest	cGMP

## CD85d (ILT4)

CD85d (ILT4) is a member of the new immunoglobulin (Ig)-like transcripts (ILT) family of genes located on human chromosome 19q13.4. ILT4 is also known as leucocyte Ig-like receptor (LIR)-2 and monocyte / macrophage Ig-like receptors (MIR)-10. ILT4 is a transmembrane protein recognized by 42D1 monoclonal antibody. The protein has extracellular Ig-SF domains, and ITIM motifs in the cytoplasmic tail that inhibit cellular responses by recruiting phosphatases such SHP-1. ILT4 is confined to the myelomonocytic lineage as it is expressed on monocytes, macrophages, and dendritic cells (DCs). ILT4 binds to HLA-G molecules with a 3- to 4-fold higher affinity than to classical MHC class I molecules. ILT4 may modulate one or several of the antigen presenting functions mediated by DCs, control inflammatory responses mediated by monocytes / macrophages or inhibit their cytotoxicity. The recognition of HLA-G by ILT4 may play a role in materno-fetal tolerance as HLA-G is selectively expressed in the trophoblast. It has been shown that recipient's CD8<sup>+</sup>CD28<sup>-</sup> T suppressor (Ts) cells may induce tolerance by up-regulating ITL3 and ILT4 expressions in donor's dendritic cells, rendering these antigen-presenting cells (APCs) tolerogenic.



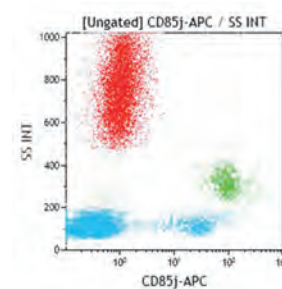
### Clone: 42D1 (IgG2a Rat)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>A22334</b>	RUO	IOTest	cGMP

## CD85j (ILT2)

CD85j, also called ILT2, is a member of the immunoglobulin (Ig)-like transcripts (ILT) family of genes located on human chromosome 19 (the numerical subclassification refers to the members in the order of the gene on the chromosome). It is a 110-kDa transmembrane glycoprotein. ILT2 receptor is a NK receptor involved in inhibition of NK and T cells cytolytic activity and cytokine production. ILT2 is also known as leucocyte Ig-like receptor (LIR)-1 and monocyte / macrophage Ig-like receptor (MIR)-7. The protein has 4 extracellular Ig-SF domains, and 4 cytoplasmic ITIM motifs in the cytoplasmic tail. Both myeloid and lymphoid cells express ILT2. Among lymphoid cells, NK cells, T cell subsets and all peripheral B cells express ILT2. It is also expressed on monocytes, macrophages, and dendritic cells. Ligands for CD85j are non-classical class I HLA-G molecules, certain alleles of HLA-A and -B loci and the human cytomegalovirus gene product, UL18, a viral homolog of HLA class I molecules. The inhibitory function of CD85j has been explored mainly in NK and T cells. In NK cells, ILT2 inhibits the cytotoxicity of HLA-Class I-positive target cells. In T cells, ILT2 inhibits both signaling and cellular events that control the activation of T cells.

**Clone: HP-F1 (IgG1 Mouse)**



Lysed normal whole blood sample.

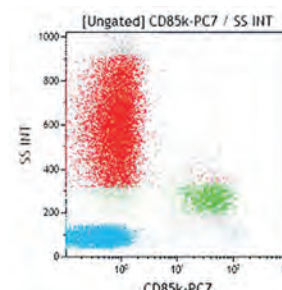
Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	A07408	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B30645	ASR	IOTest	cGMP

## CD85k (ILT3)

The CD85k antigen (ILT3) is a member of Immunoglobulin (Ig)-Like Transcripts (ILT), also known as Leucocyte Ig-like Receptors (LIR) and Monocyte / Macrophage Ig-like Receptors (MIR). ILT are expressed on monocytes, macrophages, dendritic cells (DCs) and granulocytes, except ILT2, which is expressed by both myeloid and lymphoid cells: NK, T cell subsets and all peripheral B cells. All ILT receptors except (ILT6) are transmembrane proteins and have been classified in 3 types: Inhibitory: ILT2, 3, 4, 5, LIR8; Activating: ILT1, LIR6a, 7, LIR8, with a cytoplasmic tail associated to FcRγ; Soluble: ILT6. The CD85k antigen (otherwise known as LIR-5, HM18) is a transmembrane protein of 60 kDa, constitutively phosphorylated. Unlike ILT2 and ILT4, ILT3 does not bind to HLA-A, -B and -G1 molecules. The ligand of ILT3 is unknown, however research studies point out the following functional properties: ILT3 is involved in antigen uptake and presentation; ILT3 negatively regulates Antigen Presenting Cell (APC) functional responses triggered via stimulatory receptors such as CD11b, CD16, MHC-class II. The transmission of a negative signal via ITIMs may be one of the inhibitory mechanisms, ranging from temporary to permanent inactivation, that control homeostasis, and immunological tolerance. It has been shown that ILT3, unregulated on monocytes and DCs by CD8+CD28- T suppressor cells, renders these APC tolerogenic.

**Clone: ZM3.8 (IgG1 Mouse)**

The ZM3.8 antibody immunoprecipitates a protein of 55 kDa from ILT3-transfected T cells and a protein of 60 kDa from monocytes.



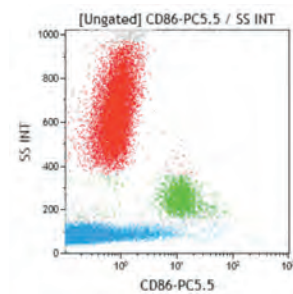
Lysed normal whole blood sample.

Form	Size	Format	Part#	Status	Line	Quality Standard
PC7	1 mL	Liquid	A46529	ASR	IOTest	cGMP



## CD86

The CD86 antigen (B7-2, B70) is a single-chain trans-membrane glycoprotein, structurally similar to CD80. Its molecular weight is 80 kDa, under reducing conditions. The extracellular region is composed of one V-type and one C-type Ig-like domains. There are 8 potential sites for N-glycosylation. The cytoplasmic tail has 3 potential sites for protein kinase C phosphorylation. CD86 shares with the CD80 molecule the same co-receptors on T cells, CD28 and CD152 (CTLA-4). CD86 binds to CD152 with a 20-100-fold higher affinity than to CD28. CD86 is expressed constitutively by interdigitating dendritic cells, and at lower level by peripheral blood dendritic cells. It is strongly expressed by monocytes. On lymphocytes, CD86 appears as a B-cell activation antigen. CD86 is preferentially expressed by memory B cells and germinal center B cells, but not on plasma cells. Its expression can be up-regulated by activation through surface immunoglobulin, CD40, MHC class II molecules or by PMA with ionomycin. T cells activated by CD3 ligation have also been reported to express CD86.



Lysed normal whole blood sample.

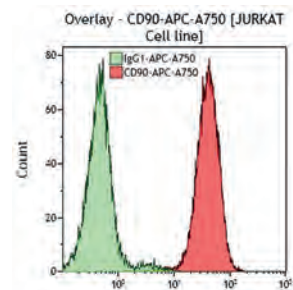
### Clone: HA5.2B7 (IgG2b Mouse)

HA5.2B7 cross reacts with: Ovine, Caprine, Porcine, Mink.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2729U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B30647	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B30648	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B30646	ASR	IOTest	cGMP

## CD90

The human CD90 antigen (also known as Thy-1) is the smallest (18 kDa) member of the immunoglobulin gene superfamily (IgSF). It is a highly glycosylated molecule with a glycosyl-phosphatidylinositol (GPI) anchor consisting of a single IgSF variable domain. The CD90 molecule has a broad tissue distribution and is expressed in nervous tissue, connective tissue and various stromal cell lines. It characterizes a rare subset of human fetal bone marrow cells, that contains multipotent hematopoietic progenitor activity. This antigen is expressed on a subset of CD34 positive cells from human bone marrow, cord blood or fetal liver. It is also expressed on very small subsets of thymocytes and peripheral T-lymphocytes.



Jurkat cell line: IL-2 producing T lymphocyte cell line.

### Clone: F15-42-1-5 (IgG1 Mouse)

F15-42-1-5 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.

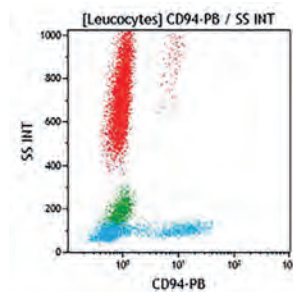
Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	2 mL	Liquid	IM1839U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM1840U	ASR	IOTest	cGMP

### Clone: Thy1/310 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B30649	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM3703	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B36121	ASR	IOTest	cGMP

## CD94 (NKG2a)

CD94 is a type II transmembrane glycoprotein of 30 kDa, belonging to the  $\text{Ca}^{++}$ -dependent (C-type) lectin family. Like NKG2A (or Kp43) on human natural killer (NK) cells, CD94 associates with one member of the NKG2 family to form disulphide-linked, NK cell receptor for MHC class I molecules, with a broader specificity than the human killer cell inhibitory (KIR) / activator (KAR) receptors of the Ig-superfamily. Ligation of CD94 either potently triggers or inhibits NK cell proliferation and cell-mediated cytotoxicity. Recent studies strongly indicate that the specificity of CD94/NKG2 receptors is for HLA-E, a non-classical MHC class I molecule. CD94/NKG2A and CD94/NKG2B heterodimers constitute inhibitory NK cell receptors, whereas the association of CD94 with NKG2C corresponds to an activating receptor. The expression of CD94 appears restricted to most NK cells and to a T lymphocyte subpopulation including a subset of  $\gamma\delta$  TCR<sup>+</sup> T-cells and  $\alpha\beta$  TCR<sup>+</sup> CD8<sup>+</sup> CD56<sup>+</sup> T-cells, mainly V $\alpha$ 2/V $\delta$ 2.



Lysed normal whole blood sample.

### Clone: HP-3B1 (IgG2a Mouse)

Ligation of CD94 with the HP-3B1 monoclonal antibody inhibits IL-2-dependent proliferation of NK-cells, and induces apoptosis in a subset of IL-2-stimulated NK cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B90465	ASR	IOTest	cGMP
PE	100 tests	Liquid	IM2276	RUO	IOTest	cGMP
APC	0.5 mL	Liquid	B09980	ASR	IOTest	cGMP

## CD95

The CD95 (Fas or APO-1) antigen is a 40-50 kDa transmembrane glycoprotein. It belongs to the Tumor Necrosis Factor (TNF) superfamily and contains three cysteine-rich repeats. This cell surface molecule mediates apoptosis (programmed cell death). CD95 antigen is expressed on a substantial proportion of peripheral blood CD4<sup>+</sup> lymphocytes, CD8<sup>+</sup> lymphocytes and B lymphocytes but on a minor proportion of NK cells. It is not found on platelets or erythrocytes, but is expressed variably on granulocytes and monocytes. CD95 is strongly up-regulated on activated T cells, B cells, NK cells and thymocytes. Moreover, it is widely expressed on cell lines of T, B, NK and myeloid lineages. Most other tissues express CD95.

### Clone: CH11 (IgM Mouse)

The CH11 antibody *in vitro* induces apoptosis in some CD95 expressing cell lines.

Form	Size	Format	Part#	Status	Line	Quality Standard
UNLB	0.05 mg	Liquid	IM1504	RUO	-	cGMP

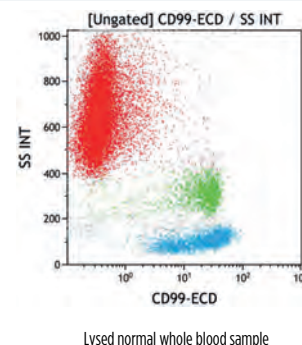
### Clone: UB2 (IgG1 Mouse)

UB2 cross reacts with: Carp.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	IM1739	RUO	-	cGMP

## CD99

CD99 is an heavily O-glycosylated 32-kDa type I transmembrane protein. Its expression has been reported in many cell types, such as hematopoietic cells, endothelial cells, central nervous system ependymal cells, thymocytes, granular cells of the ovary, Sertoli cells, and pancreatic islet cells. It is variably expressed on blood cells: at high density on T cells, NK cells and erythrocytes, at low density on B cells, eosinophils and platelets. Within the functions of CD99 in cells highly expressing this antigen, studies have shown cell death of thymocytes and T lymphocytes, migration through monocyte endothelial junctions by adhesion and diapedesis, cell-cell adhesion in lymphocytes. CD99 has intercellular protein phosphorylation activity, which triggers modulation of T-cell adhesion, induction of homotypic adhesion of corticothymocytes, apoptosis and rosette formation with erythrocytes.



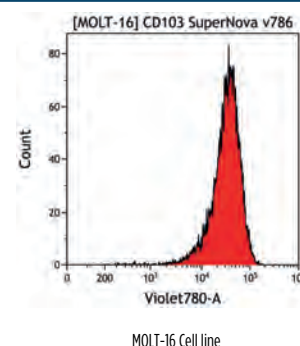
### Clone: 3B2/TA8 (IgG2a Mouse)

This clone replaces HCD99.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>ECD</b>	0.5 mL	Liquid	<b>C73917</b>	ASR	IOTest	cGMP	<b>NEW</b>
<b>APC</b>	0.5 mL	Liquid	<b>C73916</b>	ASR	IOTest	cGMP	<b>NEW</b>

## CD103

The CD103 antigen was originally described as the human mucosal antigen 1 (HML-1) and was subsequently proved to be the integrin  $\alpha$ E subunit. CD103 is composed of a 150 kDa chain associated with a 25 kDa chain by a disulfide bond. It is expressed as a heterodimer in association with the integrin  $\beta$ 7 chain. CD103 is expressed on mucosa-associated T lymphocytes and activated cells. This human intra-epithelial lymphocyte marker is expressed in very few resting peripheral blood lymphocytes.  $\alpha$ E $\beta$ 7 binds to E-cadherin on epithelial cells. Activation and TGF $\beta$ -1 induce CD103 expression.



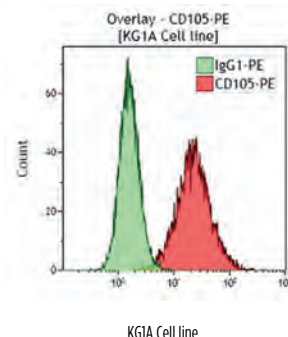
### Clone: 2G5 (IgG2a Mouse)

The 2G5 antibody stains a few bone marrow cells and, rarely, peripheral blood lymphocytes. 2G5 cross reacts with: Indian Rhesus, Sooty Mangabey.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv786</b>	0.5 mL	Liquid	<b>C78085</b>	ASR	IOTest	cGMP	<b>NEW</b>
<b>FITC</b>	100 tests	Liquid	<b>B49222</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM1856U</b>	ASR	IOTest	cGMP	
<b>APC</b>	0.5 mL	Liquid	<b>B06204</b>	ASR	IOTest	cGMP	
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0318</b>	RUO	-	cGMP	

## CD105

The CD105 antigen, also called Endoglin, is a 170-180 kDa RGD containing molecule which is present on the cell surface as a disulphide-linked homodimer. The molecule is a co-receptor for Transforming Growth Factor (TGF)  $\beta$ 1 and  $\beta$ 3. It is expressed mainly on endothelial cells, but also strongly in pre-B lymphocytes and in a subpopulation of monocytes. CD105 is a regulatory protein of TGF-beta receptor complex. CD105 expression and function in primitive hematopoiesis indicate that this molecule could cooperate with the dissociation of TGF- $\beta$ 1 cell cycle effects from its other effects on cell survival and differentiation.

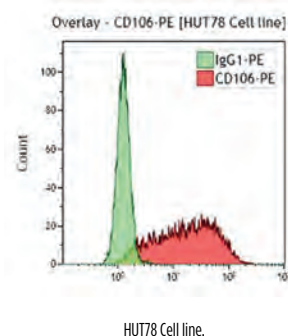


Clone: TEA3/17.1.1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	B92442	CE/IVD	IOTest	IVDR
PE	1 mL	Liquid	B76299	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B43293	ASR	IOTest	cGMP

## CD106

The CD106 antigen, also known as Vascular Cell Adhesion Molecule-1 (VCAM-1), is an adhesion molecule which binds to integrin  $\alpha$ 4/ $\beta$ 1 (VLA-4) and integrin  $\alpha$ 4/ $\beta$ 7 on lymphocytes. It is a 110 kDa cell surface sialoglycoprotein belonging to the immunoglobulin superfamily. CD106 contains 7 Ig-like C2-type (immunoglobulin-like) domains. CD106 antigen is present on activated endothelial cells, tissue macrophages, dendritic cells and bone marrow fibroblasts. It is involved in the adhesion of lymphocytes, monocytes and eosinophils to activated endothelium. Recent studies shown that CD106 identifies a unique subpopulation of Mesenchymal Stem Cells (MSCs) with powerful immunosuppressive activity.



Clone: 1G11 (IgG1 Mouse)

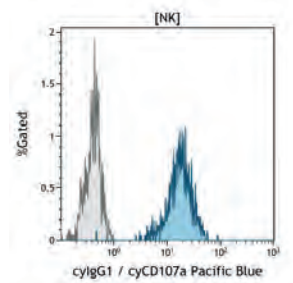
The 1G11 antibody inhibits T lymphocyte adhesion to TNF-stimulated endothelial cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	A66085	RUO	IOTest	cGMP



## CD107a (LAMP-1)

The CD107a antigen is the heavily glycosylated 110 kDa lysosomal-associated membrane protein, LAMP-1. Together with LAMP-2, they are the major glycoproteins on the membrane of lysosome granules. CD107a molecule is ubiquitously found as intracellular antigen. It is also expressed on the surface of activated platelets, PHA activated, a few monocytic cell lines, and fetal thymus stromal cells. It has been described as a marker of cytotoxic CD8+ T cell degranulation and of NK cell functional activity. As platelet activation marker, it has characteristics of an adhesive molecule. A minor fraction (<2%) of LAMP-1 is associated with the plasma membrane of most nucleated cells, presumably as a result of selective exchange of lysosomal and plasma membranes. Increased surface expression of LAMP-1 has been observed on transformed cells of high metastatic potential, and on embryonic cells.



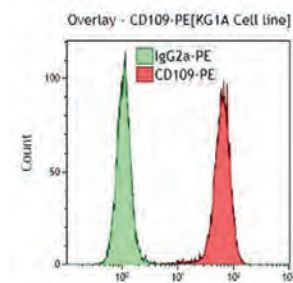
Lysed normal whole blood sample gated on NK cells.

Clone: H4A3 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B13978	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B12934	ASR	IOTest	cGMP

## CD109 (E123)

The CD109 antigen is a monomeric glycosyl phosphatidylinositol (GPI)-linked glycoprotein of 170 kDa. It is a novel member of the  $\alpha$ 2 macroglobulin ( $\alpha$ 2M) / C3, C4, C5 family of thioester-containing proteins. CD109 is found on vascular endothelial cells, some epithelial cells, activated T-cells, activated platelets, leukemic megakaryoblasts and a subset of bone marrow CD34+ cells. It is not expressed on fresh peripheral blood lymphocytes (PBL). Poorly differentiated (CD34+, TdT+, CD7+) T-acute leukemias and rare cases of chronic myeloid leukemia in megakaryoblast crisis express the CD109 antigen. Furthermore, megakaryoblastoid cell lines (MO7e, MOLM-1) are CD109+. The CD109 antigen may represent a very early marker for hematopoietic cells committed to the megakaryocyte lineage. In contrast, the adult bone marrow CD34+ CD109+ subset identifies the most primitive hematopoietic stem cells capable of long-term culture and lymphoid progenitors of the B-cell lineage.



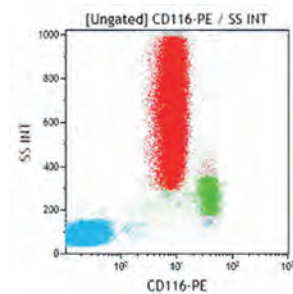
KG1A Cell line.

Clone: 8A3 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	A08933	RUO	IOTest	cGMP

## CD116 (GM-CSFR)

The CD116 antigen, a 75-85 kDa molecule, is the human Granulocyte-Monocyte Colony-Stimulating Factor (GM-CSF) receptor  $\alpha$  chain. The CD116 antigen is not expressed by lymphocytes, but strongly by monocytes and granulocytes as well as their precursors. It is also present on endothelial cells, fibroblasts and Langerhans cells. CD116 associates with the common  $\beta$  chain (CDw131) of the IL-3 and IL-5 receptors to form a high affinity receptor for GM-CSF.



Lysed normal whole blood sample.

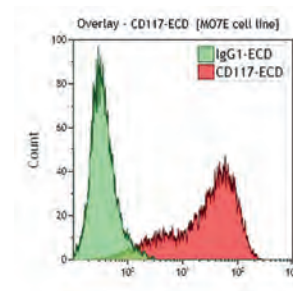
### Clone: SCO6 (IgG1 Mouse)

The SCO6 antibody recognizes an epitope of the GM-CSF receptor  $\alpha$  chain. It is a high affinity antibody which binds to the membrane and to the soluble form of GM-CSFR. It immunoprecipitates the molecule. SCO6 antibody does not work in Western blot assays.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM1977	RUO	IOTest	cGMP

## CD117 (c-kit)

The CD117 antigen, also known as Stem Cell Factor Receptor (SCFR), mast-cell-Kit, and steel factor receptor, is a 145 kDa transmembrane glycoprotein encoded by the ckit proto-oncogene. The CD117 molecule belongs to the class III Receptor Tyrosine Kinase (RTK) family. Within the haematopoietic compartment, the CD117 molecule is expressed on approximately 50 % of CD34+ progenitors engaged in erythrocytic, myelo-monocytic and megakaryocytic differentiation. Although CD117 is primarily a marker for non-lymphoid progenitors, it has been reported to be detected on early lymphoid progenitors. CD117 expression has been found on a small subset of resting NK cells (CD56<sup>bright</sup>), and about 30% of immature CD3- CD4- CD8- thymocytes. CD117 is also expressed on mast cells and detected on non-hematopoietic cells such as reproductive system, melanocytes and embryonic brain cells.



M07E cell line.

### Clone: 95C3 (IgG1 Mouse)

The 95C3 antibody reacts with BFU-E, CFU-GEMM, CFU-GM and CFU-G. The 95C3 antibody reduces the binding of SCF to its receptor to about half of the maximum value.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1360U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	IM2657U	ASR	IOTest	cGMP

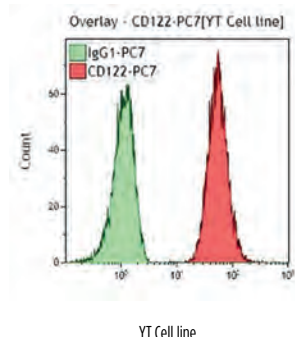
### Clone: 104D2D1 (IgG1 Mouse)

104D2D1 cross reacts with: Bovine.

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C76813	RUO	IOTest	cGMP	NEW
PE	100 tests	Liquid	IM2732	CE/IVD	IOTest	IVDR	
PE	2 mL	Liquid	IM2732U	ASR	IOTest	cGMP	
ECD	0.5 mL	Liquid	B38307	ASR	IOTest	cGMP	
PC5	100 tests	Liquid	IM2733	CE/IVD	IOTest	IVDR	
PC5	1 mL	Liquid	IM2733U	ASR	IOTest	cGMP	
PC5.5	50 tests	Liquid	B96754	CE/IVD	IOTest	IVDR	
PC5.5	0.5 mL	Liquid	A66333	ASR	IOTest	cGMP	
PC7	100 tests	Liquid	B49221	CE/IVD	IOTest	IVDR	
PC7	1 mL	Liquid	IM3698	ASR	IOTest	cGMP	
APC	100 tests	Liquid	B36300	CE/IVD	IOTest	IVDR	
APC	1 mL	Liquid	IM3638	ASR	IOTest	cGMP	
APC-A750	50 tests	Liquid	B92450	CE/IVD	IOTest	IVDR	
APC-A750	0.5 mL	Liquid	A86051	ASR	IOTest	cGMP	

## CD122 (IL-2R $\beta$ )

The CD122 antigen is the human IL-2 receptor  $\beta$  chain (p75). CD122 associates with CD25 and CD132 (IL-2R $\gamma$ ) to form the IL-2 high affinity receptor. It is also a component of the IL-15 receptor. CD122 can directly bind IL-2 and is involved in IL-2 signal transduction. The CD122 antigen is expressed on NK cells, B and T lymphocytes and monocytes.



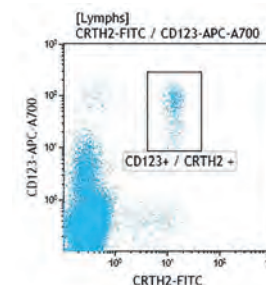
### Clone: CF1 (IgG1 Mouse)

CF1 is a non blocking antibody. CF1 cross reacts with: Cynomolgus Monkey, Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
PC7	1 mL	Liquid	A53365	ASR	IOTest	cGMP

## CD123 (IL-3R $\alpha$ )

The CD123 antigen, alias Interleukin-3 alpha receptor (IL-3R $\alpha$ ), belongs to the cytokine receptor family. It is constitutively expressed by committed hematopoietic stem / progenitor cells, by most of the myeloid lineage (CD13<sup>+</sup>, CD14<sup>+</sup>, CD33<sup>+</sup>, CD15<sup>low</sup>), and by some CD19<sup>+</sup> cells, it is absent from CD3<sup>+</sup> cells. CD123 is a useful new marker for distinguishing B-cell disorders with circulating villous lymphocytes.



Lysed normal whole blood sample gated on lymphocytes.  
CD123-APC-A700 in dual staining with CRTH2-FITC.

### Clone: SSDCLY107D2 ( IgG1 Mouse)

The SSDCLY107D2 monoclonal antibody reacts with plasmacytoid dendritic cells in situ (PDCs). SSDCLY107D2 cross reacts with: Cynomolgus Monkey.

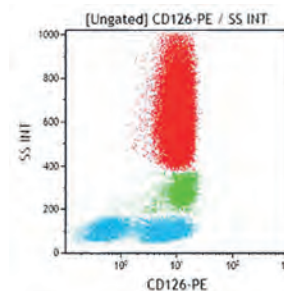
Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A32535	ASR	IOTest	cGMP
ECD	0.5 mL	Liquid	B20027	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B20022	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B13647	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B06376	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	B24028	ASR	IOTest	cGMP

### Clone: 9F5 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B14808	ASR	IOTest	cGMP

## CD126 (IL-6R $\alpha$ )

The CD126 antigen is the human IL-6 receptor  $\alpha$  chain. It is an integral membrane protein of 80 kDa. In peripheral blood it is detectable on monocytes, on activated B lymphocytes, and on CD4<sup>+</sup> T lymphocytes. This antigen is also expressed by epithelial cells. The CD126 antigen associates with CD130 to form a high affinity IL-6 receptor. A soluble form of CD126 (sIL-6R) can be detected in plasma.



Lysed normal whole blood sample.

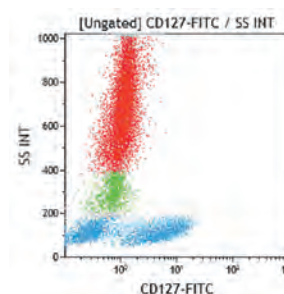
### Clone: M91 (IgG1 Mouse)

The M91 antibody recognizes the membrane and soluble form of IL-6R $\alpha$  chain. It binds to the amino terminal immunoglobulin domain of IL-6R $\alpha$ . It binds to IL-6/IL-6R $\alpha$  complexes and IL-6/IL-6R/gp130 complexes. It is a non-blocking antibody suitable for Western blot assays.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM1979	ASR	IOTest	cGMP

## CD127 (IL-7R $\alpha$ )

The CD127 antigen is a 75-80 kDa type I transmembrane glycoprotein also known as IL-7 receptor  $\alpha$  chain or IL-7R $\alpha$ . It forms a heterodimer with the common  $\gamma$  chain CD132 (IL-2R $\gamma$ ), which is shared with the receptors for IL-2, IL-4, IL-9, IL-13, IL-15, and IL-21, to form the high affinity IL-7 receptor. CD127 is found on normal B cell precursors but not on mature B lymphocytes. It is also expressed by thymocytes, the majority of peripheral T lymphocytes, a subset of monocytes and a subset of CD34<sup>+</sup> cells. CD127 is a useful marker for identifying memory and effector T cells. Its expression is down-modulated on Treg cells. The ligation of IL-7 with its receptor is important for stimulation of mature and immature T cells as well as immature B cell proliferation and development.



Lysed normal whole blood sample.

### Clone: R34.34 (IgG1 Mouse)

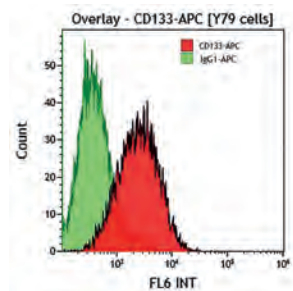
The R34.34 antibody inhibits binding of IL-7 to CD127. R34.34 cross reacts with: Indian Rhesus, Pigtailed Macaque.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	1 mL	Liquid	B25366	ASR	IOTest	cGMP
PE	100 tests	Liquid	B49220	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM1980U	ASR	IOTest	cGMP
PC5	1 mL	Liquid	A64617	ASR	IOTest	cGMP
PC7	1 mL	Liquid	A64618	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B42026	ASR	IOTest	cGMP
APC-A700	0.5 mL	Liquid	A71116	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B12700	ASR	IOTest	cGMP



## CD133

CD133, also known as AC133 or PROML1, is a 5-transmembrane glycoprotein of 120kDa belonging to the prominin family. It is mainly expressed on primitive cell populations such as CD34 hematopoietic stem and progenitor cells, neural and endothelial stem cells. In association with CD309 (KDR or VEGFR-2), CD133 allows the specific detection of endothelial progenitor cells. CD133 function is unknown although a naturally occurring mutation is associated with degenerative disease in the retina of affected patients.



Y79 cell line.

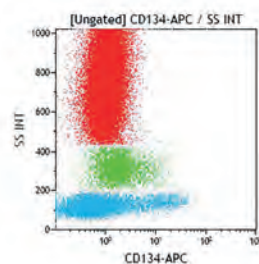
### Clone: W6B3C1 (IgG1 Mouse)

The clone W6B3C1 was assigned to CD133 during the Seventh HLDA Workshop on Human Leukocyte Differentiation Antigens. Similarly to AC133/1 clone, it recognizes the epitope 1.

Form	Size	Format	Part#	Status	Line	Quality Standard
APC	0.5 mL	Liquid	C15190	ASR	IOTest	cGMP

## CD134 (OX 40)

The CD134 antigen is a 35 kDa, type-1 transmembrane glycoprotein member of the tumor necrosis factor superfamily (TNFRSF) and is allocated number 4. This antigen was originally named OX40 from the first antibody that led to the discovery of this antigen on activated rat CD4<sup>+</sup> T cells. In humans, CD134 is expressed at high levels on activated CD4<sup>+</sup> T cells and virally stimulated CD4<sup>+</sup> T cells. Its ligand, known as gp34, is a type-2 transmembrane glycoprotein member of the tumor necrosis factor (TNF) superfamily, expressed on activated T and B cells, dendritic cells and macrophages. The CD134 antigen, through its interaction with adaptor proteins TRAF2, TRAF3 and TRAF5, is a costimulatory signal transducer of T-cell receptor-mediated activation that has been shown to activate NF- $\kappa$ B, a signaling factor involved in transcription of survival genes. Thus, CD134 engagement with its ligand induces clonal expansion and survival of CD4<sup>+</sup> cells during primary responses, and results in the accumulation of increasing numbers of memory cells with time. Finally, CD134 has been shown to be involved in the T cell adhesion to endothelium.



Lysed normal whole blood sample.

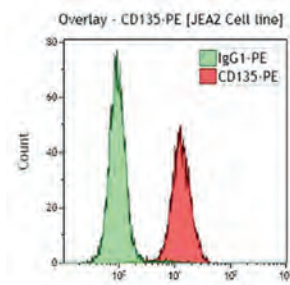
### Clone: Ber-ACT35 (IgG1 Mouse)

Ber-ACT35 cross reacts with: Feline.

Form	Size	Format	Part#	Status	Line	Quality Standard
APC	0.5 mL	Liquid	B30629	ASR	IOTest	cGMP

## CD135 (flt3/flk2)

The CD135 antigen, also called FLT3 or FLK2 or STK1, is an integral transmembrane glycoprotein of 130 kDa to 150 kDa, which belongs to the class III receptor tyrosine kinase (RTK) family. These receptors directly bind extracellular ligands and transduce regulatory signals through intracytoplasmic tyrosine kinase activity. The CD135 antigen is expressed on myelomonocytic and primitive B cell progenitors. On normal bone marrow cells, expression of CD135 can be found on CD34-positive as well as CD34-negative cells. Most of the CD34bright, CD135-positive cells co-express CD117 at high levels. They may represent early cycling, not quiescent stem cells. CD135-positive cells in the CD34 low and CD34-negative populations do not co-express CD117 molecule and may represent B-lymphoid precursors.



JEA2 Cell line.

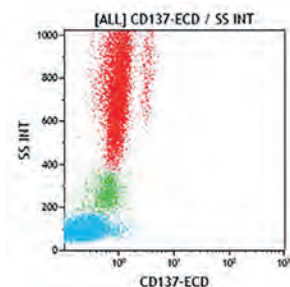
### Clone: SF1.340 (IgG1 Mouse)

The SF1.340 antibody is specific for an extracellular domain of CD135. This antibody does not compete with the FLT3 ligand for binding to FLT3.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2234U	ASR	IOTest	cGMP

## CD137

CD137, also known as 4-1BB or ILA (for Induced by Lymphocyte Activation) is a 39kDa type I integral membrane protein of the TNF/NGF family. CD137 is expressed on activated T and B cells, NK cells, monocytes and follicular dendritic cells. Differential splicing leads to the release of a 16-kDa soluble form from activated T cells. CD137 is involved in monocyte activation by inducing an increase in the production of IL-6, IL-8 and TNF- $\alpha$ , and an inhibition of IL-10 production. In addition, CD137 plays a role in the induction of B lymphocyte apoptosis and the co-stimulation of T-cell proliferation.



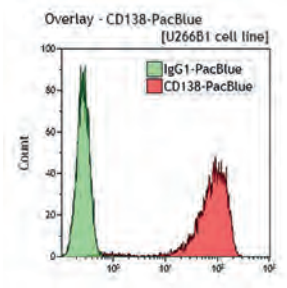
Lysed normal whole blood sample.

### Clone: 4B4-1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
ECD	0.5 mL	Liquid	B76262	ASR	IOTest	cGMP

## CD138

The CD138 antigen (also known as syndecan-1) is a member of the syndecan family, which is comprised of 4 types of transmembrane heparan sulfate proteoglycans macromolecules (syndecan-1, -2 or fibroglycan, -3 or N-syndecan, and -4 or amphiglycan). These molecules are involved in interactions with extracellular matrix proteins, with cell-surface molecules and with soluble proteins such as cytokines. CD138 expression in human hematopoietic cells is restricted to plasma cells in normal bone marrow. Peripheral blood monocytes, T- and B-lymphocytes are not reactive. Tonsil cells and early B-cell precursors in human bone marrow also are negative. CD138 is expressed in a variety of mature tissues, including epithelial cells, endothelial cells, fibroblasts, keratinocytes and normal hepatocytes. CD138 may act as an essential regulator of ligand-specific activation of primary signalling receptors at the cell surface, by co-engagement of various accessory ligands.



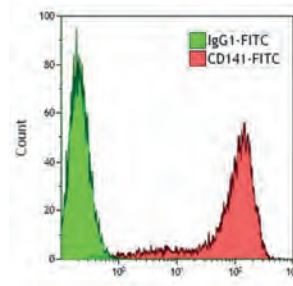
U266B1 cell line.

Clone: B-A38 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C84709</b>	RUO	IOTest	cGMP	available Q2
<b>PB</b>	0.5 mL	Liquid	<b>B37788</b>	ASR	IOTest	cGMP	
<b>KrO</b>	0.5 mL	Liquid	<b>B42019</b>	ASR	IOTest	cGMP	
<b>PE</b>	100 tests	Liquid	<b>A54190</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>A40316</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A54191</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	1 mL	Liquid	<b>A40317</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	50 tests	Liquid	<b>B96786</b>	CE/IVD	IOTest	IVDR	
<b>PC5.5</b>	0.5 mL	Liquid	<b>A98835</b>	ASR	IOTest	cGMP	
<b>APC</b>	50 tests	Liquid	<b>B49219</b>	CE/IVD	IOTest	IVDR	
<b>APC</b>	0.5 mL	Liquid	<b>A87787</b>	ASR	IOTest	cGMP	

## CD141 (BDCA-3)

CD141, also known as thrombomodulin (TM) and BDCA-3, is an endothelial cell surface receptor. It is a 75 kD type I membrane glycoprotein and members of C-type lectin family. Two major isoforms exist, differentiated by the presence or not of sulfated glycosaminoglycan at Ser/Thr region. CD141 antigen is expressed on neutrophils, monocytes and platelets. CD141 is expressed at high levels on a minor subpopulation of human myeloid dendritic cells that show monocytoïd morphology. This subpopulation of dendritic cells is of special interest, because it has an influence on regulatory T cells and hence on immune responses. CD141 is also expressed by vascular endothelial cells, and keratinocytes. It is a cofactor in the activation of protein C and initiation of the protein C anticoagulant pathway by binding to its ligand thrombin.



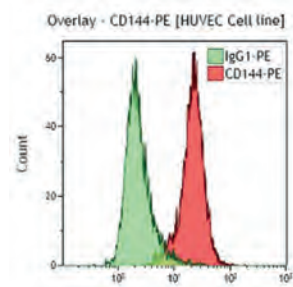
Overlay - CD141-FITC  
K562 Transfected cell line.

Clone: M80 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B43289</b>	ASR	IOTest	cGMP

## CD144 (VE-Cadherin)

CD144, also called Cadherin 5, CDH5 or VE-Cadherin is a 140 kDa protein belonging to the cadherin family of cell adhesion molecules which interact homophilically in trans and form lateral interactions in cis. VE-cadherin is the major component of endothelial adherens junctions and is specific to endothelial cells. It is present in all endothelial cells of all types of vessels. It is located at the intercellular cleft sites of the junction within endothelial tissue. CD144 cannot be found in any other cell type, including blood cells or hemopoietic stem cells, and, like a signature for the endothelium, is expressed during development, when cells become committed to the endothelial lineage. The cadherin 5 molecule may play a role in the permeability properties of vascular endothelium.



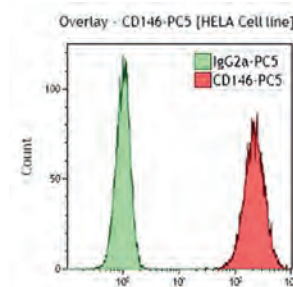
HUVEC Cell line.

Clone: TEA 1/31 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A07481	ASR	IOTest	cGMP

## CD146

The CD146 molecule, also known as S-Endo, is a single chain transmembrane glycoprotein with a molecular weight of 118 kDa, belonging to the immunoglobulin superfamily (IgS). The extracellular structure consists of five Ig-like domains: two V-type, and three C2-type Ig-like domains. The CD146 antigen is related to cell adhesion molecules of the IgS family and its presence is concentrated at regions of cell-cell contact, confirming its role in adhesion and particularly in maintenance of monolayer integrity. CD146 is constitutively expressed in the endothelium, and is also observed on other cell types such as smooth muscle cells, and intermediate trophoblasts. Among peripheral whole blood leucocytes, CD146 expression is not detected, except on a subset of activated T-lymphocytes.



HELA Cell line.

Clone: TEA 1/34 (IgG2a Mouse)

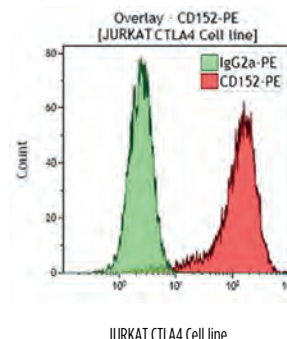
The TEA 1/34 monoclonal antibody was assigned to the CD146 (Code: E077) during the HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A07483	ASR	IOTest	cGMP
PC5	1 mL	Liquid	A22364	ASR	IOTest	cGMP



## CD152 (CTLA-4)

The CD152 antigen, also called CTLA4, is an integral membrane protein belonging to the immunoglobulin superfamily, which is expressed either as a 30 kDa monomer or as a disulfide-linked homodimer. It has homology with the T cell antigen CD28, and like CD28, is a ligand for CD80 and CD86. CTLA-4 is transiently expressed by activated T cells and is not detectable in resting T cells. CD152 and CD28 are involved in the costimulation required for T cell activation. CD152 is an essential checkpoint control for autoimmunity; however, the molecular mechanism(s) by which CTLA-4 achieves its regulatory function are not well understood, especially how it functionally intersects with the CD28 pathway.



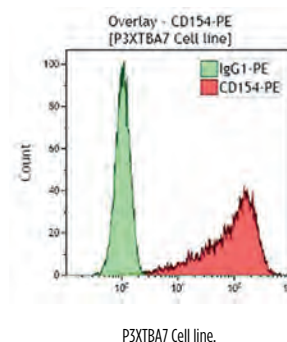
### Clone: BNI3 (IgG2a Mouse)

The BNI3 antibody can be used to detect intracytoplasmic CD152 (CTLA4) by flow cytometry after permeabilization with IntraPrep Permeabilization Reagent. BNI3 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Chimpanzee, Olive Baboon and Ovine, Porcine.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	IM2282	RUO	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM2070	RUO	-	cGMP

## CD154

The CD154 antigen (CD40-ligand), also known as TRAP (Tumor necrosis factor Related Activation Protein), is a member of the Tumor Necrosis Factor (TNF) superfamily. It is a 32 kDa type II transmembrane molecule. CD154 is rapidly induced on T cells (CD4+ and some CD8+ cells) following TCR activation. First identified on activated T cells, CD154 is also expressed on platelets, as well as monocytes and B cells. CD154 can also be shed from activated platelets and lymphocytes in a soluble form (sCD154). This ligand for the CD40 molecule is present on some basophils and mast cells. It has critical regulatory roles in T- and B-lymphocyte function. CD40/CD154 interaction is essential for the development of thymus-dependent humoral immune responses. Ligation of CD40 on B cells by CD154 on T cells promotes B cell proliferation, immunoglobulin (Ig) production, isotype switching and memory B-cell generation.



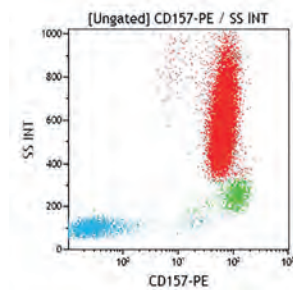
### Clone: TRAP-1 (IgG1 Mouse)

The TRAP-1 antibody inhibits activation induced by full-length soluble human CD154. TRAP-1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2216U	ASR	IOTest	cGMP

## CD157

The CD157 antigen, also known as bone marrow stromal cell antigen 1 (BST-1) is a highly glycosylated, glycosyl-phosphatidylinositol (GPI)-anchored membrane protein with a molecular weight of 43 kDa. The amino acid sequence of human BST-1 has 33% identity with CD38. Both CD38 and CD157 play dual roles as receptors and ectoenzymes, endowed with complex activities related to signaling and cell homeostasis. As with CD38, BST-1 displays ADP ribosyl cyclase activity and facilitates pre-B cell growth. CD157 is constitutively expressed by myeloid cells in peripheral blood mononuclear cells (PBMCs). The molecule is also expressed by synovial, vascular endothelial and follicular dendritic cells. Moreover, CD157 is also present on other cell types and tissues, such as dermal fibroblasts, human mast cells from lung, uterus, foreskin, and peritoneal mesothelial cells, among others.



Lysed normal whole blood sample.

### Clone: RF3 (IgG Mouse)

The RF3 antibody reacts with an external epitope of BST-1 on several human cell lines including certain bone marrow stromal cell, human umbilical vein endothelial cell (HUVEC) and U937 cell lines.

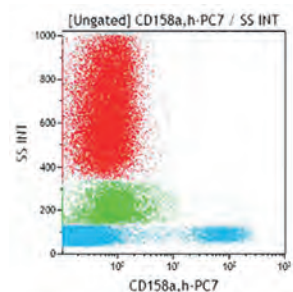
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	0.05 mg	Liquid	<b>IM2557</b>	RUO	-	cGMP

### Clone: SY/11B5 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>B68160</b>	ASR	IOTest	cGMP

## CD158a,h

The CD158a and CD158h molecules are monomeric integral membrane glycoproteins existing in different forms. CD158a, or p58.1, is a 58 kDa molecule, and CD158h, or p50.1, is a 50 kDa molecule, both having identical extracellular portions, but different transmembrane and cytoplasmic regions. Another comprehensive nomenclature refers to these molecules as KIR2DL1 for CD158a and KIR2DS1 for CD158h. These acronyms stand for Killer cell Immunoglobulin (Ig)-like Receptor (KIR), with extracellular part containing 2 Ig Domains (2D), and cytoplasmic tails being either long (L) or small (S). The long intracellular portion of CD158a, or p58.1, makes it an inhibitory form, since it contains two characteristic ITIM motifs (Immunoreceptor tyrosine based inhibition motif) and is involved in the transduction of the inhibitory signal. Whereas the stimulatory form CD158h, or p50.1, lacks these ITIM motifs. CD158a/p58.1 functions as an inhibitory receptor for a group of HLA-C molecules (Cw2, cw4, Cw5 and Cw6 supertypes). The inhibitory effect is dominant over the activation exerted by the activator form p50.1. The CD158a and CD158h molecules are indistinguishable from the extracellular viewpoint. They are expressed by a subset of NK cells, and can be detected on the surface of sub-populations of peripheral T lymphocytes, mostly of the CD8<sup>+</sup> phenotype.



Lysed normal whole blood sample.

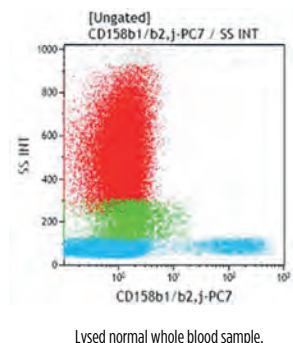
### Clone: EB6B (IgG1 Mouse)

The EB6B antibody reacts with both CD158a (p58.1 or KIR2DL1) and CD158h (p50.1 or KIR2DS1). The antibody restores the ability of p58.1<sup>+</sup> NK clones to lyse targets expressing HLA-C molecules.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>A09778</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>A66898</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>A66899</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A22332</b>	ASR	IOTest	cGMP

## CD158b1/b2,j

The CD158b1, CD158b2 and CD158 j molecules are monomeric integral membrane glycoproteins existing in different forms. CD158b1 and CD158b2 (p58.2 and p58.3, respectively) are 58 kDa molecules. CD158j (p50.2) is a 50 kDa molecule. All three have identical extracellular portions, but different transmembrane and cytoplasmic regions. CD158b1 and CD158b2 likely represent allelic forms of the same locus. There is another comprehensive nomenclature which refers to these molecules as KIR2DL2 for CD158b1 (p58.2), KIR2DL3 for CD158b2 (p58.3), and KIR2DS2 for CD158j; these acronyms stand for Killer cell Immunoglobulin (Ig)-like Receptor (KIR), with extracellular part containing 2 Ig Domains (2D), and cytoplasmic tails being either long (L) or short (S). The long intracellular portion of CD158b1/b2 (p58.2/p58.3) makes them inhibitory forms, since they contain two characteristic ITIM motifs (Immunoreceptor Tyrosine-based Inhibition Motif) and are involved in the transduction of an inhibitory signal through the activation of the protein tyrosine phosphatases SHP-1 and/or SHP-2. The stimulatory form CD158h (p50.1) lacks these ITIM motifs. CD158b1/b2 (p58.2/p58.3) function as inhibitory receptors for a group of HLA-C molecules (Cw1, Cw3, Cw7 and Cw8 supertypes). The inhibitory effect is dominant over the activation exerted by the activator form p50.2. The CD158b1/b2 and CD158j molecules are indistinguishable from the extracellular viewpoint. They are expressed by a subset of NK cells, and can be detected on the surface of sub-populations of peripheral T lymphocytes, mostly of CD8<sup>+</sup> phenotype.



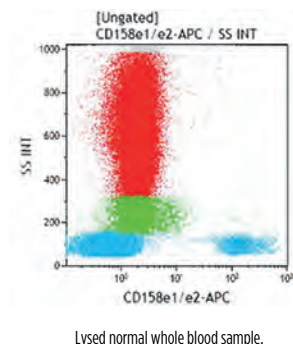
### Clone: GL183 (IgG1 Mouse)

The GL183 antibody reacts with both p58.2/p58.3 and p50.2. The antibody restores the ability of p58.2<sup>+</sup> NK clones to lyse targets expressing HLA-C molecules.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM2278U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	A66900	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	A66901	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A22333	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM1846	RUO	-	cGMP

## CD158e1/e2

The CD158e1 and CD158e2 molecules (also known as p70 molecules) are monomeric integral membrane glycoproteins of 70 kDa. CD158e1 and CD158e2 likely represent allelic forms of the same locus of the NKBI gene. These proteins belong to the family of NK receptors for MHC class I molecules and show a high degree of homology with p58 and p140 receptors. There is another comprehensive nomenclature which refers to these molecules as KIR3DL1 for CD158e1, and KIR3DS1 for CD158e2. These acronyms stand for Killer cell Immunoglobulin (Ig)-like Receptor (KIR), with extracellular part containing 3 Ig Domains (3D), and cytoplasmic tails being either long (L) or short (S). CD158e1 comprises 3 C-type extracellular Ig domains, and two characteristic ITIM motifs (Immunoreceptor Tyrosine-based Inhibition Motif) in the intracellular portion. These motifs are involved in the transduction of an inhibitory signal through the activation of the protein tyrosine phosphatases SHP-1 and/or SHP-2. CD158e1/e2 function as inhibitory receptors for HLA-B molecules of the Bw4 supertype. These molecules are expressed by a subset of NK cells, and can be detected on the surface of sub-populations of peripheral T cells, mostly of CD8<sup>+</sup> phenotype.



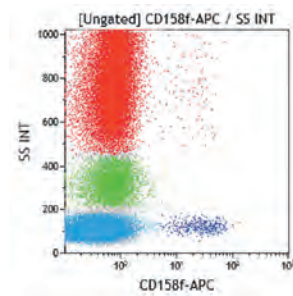
### Clone: Z27.3.7 (IgG1 Mouse)

The anti-KIR/p70 antibody Z27 restores the ability of p70<sup>+</sup> NK clones to lyse HLA-Bw4 targets.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3292	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A60795	ASR	IOTest	cGMP

## CD158f (KIR2DL5)

The CD158f molecule (also known as KIR2DL5) is a 60 kDa monomeric glycoprotein with two Ig-like extracellular domains and a long cytoplasmic domain. CD158f is an inhibitory receptor and a member of the KIR (Killer-cell Immunoglobulin-like Receptor) family of receptors, which recognizes subsets of HLA-Class I alleles. KIR2DL5 gene is found in only a fraction of individuals in the population, and it is represented in the human genome by two genes, KIR2DL5A and KIR2DL5B. KIR2DL5 has alleles with mRNA transcripts that are clonally distributed in NK and T lymphocytes. KIR2DL5 is predicted to encode a purely inhibitory receptor, according to its signaling motifs (two ITIMs (Immunoreceptor Tyrosine-based Inhibition Motif) and a 1 transmembrane region lacking charged amino acid residues). KIR2DL5, together with KIR2DL4, are the only members of a gene lineage coding for KIR with a D0-D2 organization of the Ig-like domains, which distinguishes them from all other KIR2Ds, having domains of the D1-D2 type. Upon tyrosine phosphorylation, KIR2DL5 recruits the Src homology region 2-containing protein tyrosine phosphatase-2 and, to a lesser extent, Src homology region 2-containing protein tyrosine phosphatase-1. KIR2DL5 is an inhibitory receptor which may play a specialized role in innate immunity. In particular, it is expressed in a fraction of blood NK cells with the CD56<sup>dim</sup> phenotype and in a variable proportion of circulating T lymphocytes.



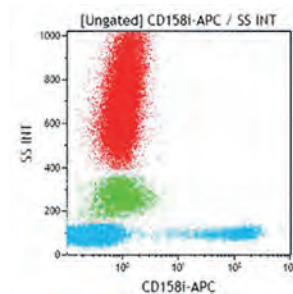
Lysed normal whole blood sample.

Clone: UP-R1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B19715	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B19716	ASR	IOTest	cGMP

## CD158i

The CD158i molecule (also known as p50.3) is a monomeric integral membrane glycoprotein of 50 kDa. This protein belongs to the family of NK receptors for MHC class I molecules. There is another comprehensive nomenclature which refers to this molecule as KIR2DS4; this acronym stands for Killer cell Immunoglobulin (Ig)-like Receptor (KIR), with extracellular part containing 2 Ig domains (2D), and a short (S) cytoplasmic tail. CD158i comprises 2 C-type extracellular Ig domains. The intracytoplasmic portion lacks characteristic ITIM motifs (Immunoreceptor Tyrosine-based Inhibition Motif) and displays a charged residue in the trans-membrane portion. CD158i receptor seems involved in NK cell activation, following HLA-Cw3 supertype recognition. Antibody-induced cross-linking of CD158i (p50.3) results in both early activation events and late effector function.



Lysed normal whole blood sample.

Clone: FES172 (IgG2a Mouse)

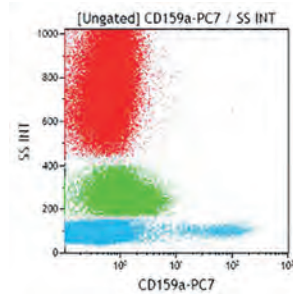
The FES172 antibody stains NK subsets, but the p50.3 antigen appears to be expressed only by some individuals, and to be co-expressed with p58 KIRs.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3337	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A60796	ASR	IOTest	cGMP



## CD159a (NKG2a)

CD159a (NKG2a) is a 40 kDa (reduced), 75 kDa (unreduced) type II transmembrane protein associated with CD94 to form a disulphide-linked heterodimer. CD159a is a member of the  $\text{Ca}^{++}$ -dependent (C-type) lectin family. The CD94/NKG2A dimer is an inhibitory NK receptor for MHC Class I, with a broader specificity than Killer cell Immunoglobulin (Ig)-like Receptors (KIR). The intracellular portion of CD159a (NKG2A) contains two characteristic ITIM motifs (Immunoreceptor tyrosine based inhibition motif) involved in the transduction of the inhibitory signal. The CD159a (NKG2A) antigen is always co-expressed with CD94. The CD94/NKG2A complex is detectable in sub-populations of NK cells, T cells and thymocytes.



Lysed normal whole blood sample.

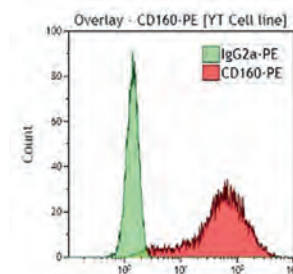
### Clone: Z199 (IgG2b Mouse)

The Z199 antibody reacts specifically with CD94<sup>bright</sup> NK cells expressing the inhibitory form of the CD94 molecules. It does not stain the activator form of CD94 which corresponds to the association of CD94 with other products of the NKG2a gene family. The antibody restores the ability of CD94<sup>bright</sup> NK clones to lyse HLA class I targets. Z199 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Pigtailed Macaque, African Green, Chimpanzee, Olive Baboon, Common Marmoset.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3291U	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B10246	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A60797	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM2750	ASR	-	cGMP

## CD160

The CD160 molecule (BY55 antigen) is a 27-kDa, glycosyl phosphatidylinositol (GPI)-anchored glycoprotein of 181 amino acids, with a single immunoglobulin (Ig)-like domain. The molecule contains two potential sites for N-glycosylation and is rich in cysteine (6 residues in the mature polypeptide), indicating an important capacity for forming intra- and inter-chain disulfide bonds, which likely support the disulfide-linked multimeric (80 kDa) expression at the cell surface. Its expression is highly restricted to circulating cytotoxic T and NK cells, and in tissues, to intestinal intraepithelial lymphocytes, as revealed by CD160 mRNA blot analysis and various phenotyping studies. In peripheral blood, CD160<sup>+</sup> cells consist of a majority of CD3<sup>+</sup> TCR $\gamma\delta$ <sup>+</sup> NK cells, which is significantly reduced in HIV<sup>+</sup> individuals, and of a minority of CD3<sup>+</sup> CD8<sup>bright</sup> T lymphocytes, which is significantly increased in HIV<sup>+</sup> individuals. In bone marrow, CD160<sup>+</sup> cells, though less abundant than in adult peripheral blood, also consist of the two populations observed in peripheral blood. In cord blood, CD160<sup>+</sup> cells consist of a unique CD3<sup>+</sup> TCR<sup>+</sup> NK cell population, 80% of these cells being CD56<sup>+</sup>. CD160 is a ligand for classical and non-classical MHC-class I molecules. The ligation of MHC-class I by CD160 provides a costimulatory signal restricted to peripheral blood activated T cells, suggesting a pathway being additional and/or alternative to the CD28 costimulation mechanism. This pathway may be relevant in memory T cells that lack CD28, such as the intestinal intraepithelial lymphocytes.



YT Cell line.

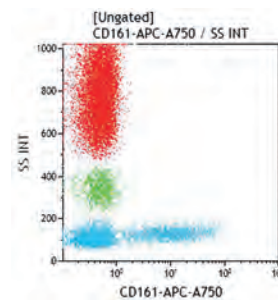
### Clone: BY55 (IgM Mouse)

The BY55 antibody was initially reported to react with a protein structure of 80 kDa exclusively expressed by circulating cytotoxic lymphocytes. It does not block the binding of the CD160 molecule to MHC-class I molecules. BY55 cross reacts with: Sooty Mangabey.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM3657	ASR	IOTest	cGMP

## CD161 (NKR-P1A)

The CD161 antigen is also designated as the NKR-P1A molecule. CD161 is a type II integral membrane protein expressed as a monomer of 44 kDa or as a disulphide-linked homodimer of 80 kDa. The carboxy-terminal extracellular domain is homologous to Ca<sup>2+</sup>-dependent (C-type) lectin superfamily. CD161 is an activatory NK receptor, but in contrast with other NK receptors such as KIR (p58, p70, p140) and CD94/NKG2, CD161-mediated activation is not HLA-dependent. CD161 is expressed on all NK cells and on sub-populations of T lymphocytes.



Lysed normal whole blood sample.

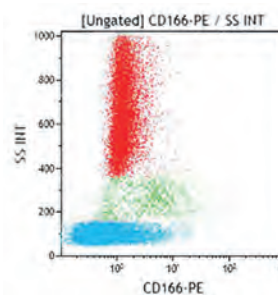
### Clone: 191B8 (IgG2a Mouse)

The 191B8 antibody partially blocks the spontaneous NK cytotoxicity in the P815 model.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3450	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B30631	ASR	IOTest	cGMP
APC-A750	0.5 mL	Liquid	B30630	ASR	IOTest	cGMP

## CD166 (ALCAM)

The CD166 antigen, also known as activated leukocyte cell adhesion molecule (ALCAM), is a single chain type 1 transmembrane glycoprotein, containing 10 potential N-linked glycosylation sites, and belonging to the immunoglobulin superfamily (IgSF). It shows a 100 - 105 kDa molecular weight, and is composed of five extracytoplasmic Ig-like domains linked to a 32-amino acid cytoplasmic tail through a short membrane-spanning region. The CD166 antigen is an adhesion molecule that binds to the CD6 molecule, or forms ALCAM-ALCAM homophilic interactions. Studies suggest that CD166 molecules can oligomerize at the site of cell-cell contact via their three C2-type Ig-like proximal domains. The CD166 molecule appears to be a non-lineage restricted molecule, expressed on a variety of cell types, including selected hematopoietic cells, endothelial cells, cortical and medullar thymic epithelial cells, bone marrow mesenchymal stem cells, fibroblasts, and hepatocytes. In peripheral blood, ALCAM is expressed on activated T- and B-cell subsets, on monocytes, on circulating dendritic cells, and weakly on granulocytes. While expressed in a wide variety of tissues, ALCAM is usually restricted to subsets of cells involved in dynamic growth and/or migration. In the thymus, the interaction between the CD6 molecule, as expressed on CD6<sup>+</sup> thymocytes, and the CD166 molecule expressed on thymic epithelial cells may play a role in T cell development. Other studies suggest that the CD166 adhesion molecule is involved in embryonic hematopoiesis, as well as in hemangioblast differentiation and capillary tube formation.



Lysed normal whole blood sample.

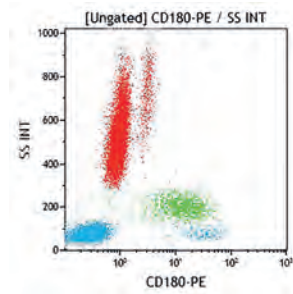
### Clone: 3A6 (IgG1 Mouse)

The 3A6 antibody blocks the binding of the CD6 ligand to its CD166 receptor as seen on adhesion experiments of CD6-expressing COS cells to thymic epithelial cells. The 3A6 antibody was clustered to the CD166 during HLDA 6.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A22361	ASR	IOTest	cGMP

## CD180

CD180 is a type 1 membrane protein consisting of extracellular leucinerich repeats (LRR) and a short cytoplasmic tail. It regulates B cell recognition of lipopolysaccharide. The extracellular LRR is associated with a molecule called MD-1 and forms the cell surface receptor complex RP105/MD-1. It belongs to the family of pathogen receptors, Toll-like receptors (TLR). RP105/MD-1, working in concert with TLR4, controls B cell recognition and signaling of lipopolysaccharide (LPS), a membrane constituent of Gram-negative bacteria. The extracellular domain of CD180 contains 22 LRR, tandem repeats of leucine-rich motif (LMR). This LMR is a 24-28 amino acid sequence in which leucines are characteristically positioned. The ligation of CD180 on B cells by a monoclonal antibody induces activation that leads to upregulation of costimulatory molecules, CD80 and CD86, and an increased cell size. CD180 is expressed on mantle zone B cells and marginal zone B cells, but weakly or negative on germinal center B cells. CD180 is also expressed on peripheral blood monocytes and dendritic cells.



Lysed normal whole blood sample.

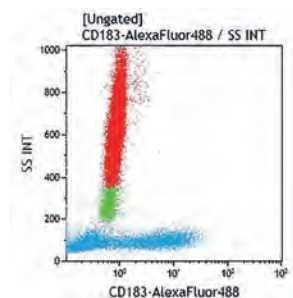
### Clone: MHR73-11 (IgG1 Mouse)

The monoclonal antibody MHR73-11 was generated against human RP105 complexed with mouse MD-1 and recognizes the CD180 protein.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B68148	ASR	IOTest	cGMP

## CD183 (CXCR3)

CD183, also called CXCR3, is a 41 kDa transmembrane G protein-coupled CXC receptor, belonging to the family of chemokine receptors. It has selectivity for IP10, Mig and I-TAC chemokines. Cellular production of CD183 ligands is induced by interferon, suggesting an important role of CD183 in Th1-type inflammatory processes. CD183 signaling induces chemotactic migration in inflammation-associated effector T cells, involving integrin activation and cytoskeletal changes. CD183 is expressed on T cells (Th1), NK cells, dendritic cells, mast cells, eosinophils.



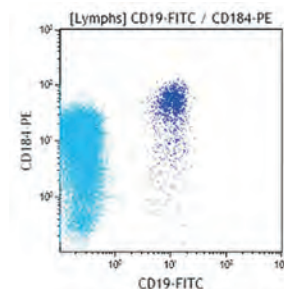
Lysed normal whole blood sample.

### Clone: G025H7 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
AF488	0.5 mL	Liquid	B68144	ASR	IOTest	cGMP

## CD184 (CXCR4)

CD184 (also known as CXCR4, or Fusin) is a seven-transmembrane domain G protein-coupled surface receptor. Its natural ligand is the stromal cell-derived factor-1 (SDF-1), a C-X-C chemokine which is strongly chemotactic for monocytes and lymphocytes. CD184 has initially been described as the human immunodeficiency virus-1 (HIV-1) entry co-receptor, associated with the surface CD4-gp120 complex before HIV-1 enters target cells. It also acts as an alternative receptor for some isolates of HIV-2. The SDF-1 / CD184 pair may also play a role in the development of the nervous system. Unlike other chemokine receptors, the cellular distribution of CD184 (CXCR4) is nearly ubiquitous; it is expressed on a variety of CD4<sup>+</sup> and CD4<sup>-</sup> cells in the immune system and the central nervous system. In blood, CD184 is highly expressed on neutrophils, monocytes, dendritic cells, NK cells, B cells, and T cells, as well as on platelets. CD184 exhibits a rapid (30 seconds) up-regulation upon activation of lymphocytes, followed by internalization (within 2 minutes). Accordingly, CD184 is detected in large amounts in intracellular stores within leucocytes. Absent from eosinophils and basophils in fresh whole blood, this antigen is inducible ex vivo on eosinophils by glucocorticoids, and on basophils by SDF-1. As a GPCR, CXCR4 binding of SDF-1 triggers certain signaling pathways such as ras, and PI3 kinase. One downstream effect of SDF-1 / CD184 interaction is the activation of transcription factors such as AP-1 and chemokine regulated genes. JAK / STAT pathways also play a role in SDF-1/CXCR4 signaling.



Lysed normal whole blood sample. Gated on lymphocytes. Dual staining with CD19-FITC.

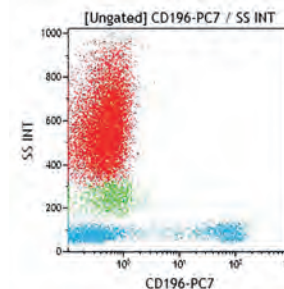
### Clone: 12G5 (IgG2a Mouse)

The 12G5 antibody partially inhibits chemotaxis and calcium influx induced by SDF-1. It stains predominantly the naïve, resting CD26<sup>low</sup> CD45RA<sup>+</sup> CD45RO<sup>-</sup> T lymphocyte subset of peripheral blood T cells. The 12G5 mAb has been assigned to the CD184 cluster of differentiation during HLDA 7. 12G5 cross reacts with: Cynomolgus Monkey, Olive Baboon and Bovine, Ovine, Canine.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A07409	ASR	IOTest	cGMP

## CD196 (CCR6)

CD196, also known as CCR6, is G-proteincoupled receptor (GPCR) consisting of an extracellular amino terminal, seven membrane-spanning regions and a cytoplasmic carboxyl terminal. CCR6 is a member of the beta chemokine receptor. CD196 is a 374 amino acids long protein and has a calculated molecular weight of 42 kDa. CD196 is predominantly expressed by B lymphocytes, certain subsets of effector and memory T cells and by immature dendritic cells but not by monocytes, NK cells or granulocytes. CD196 binds CCL20, although members of the  $\beta$  defensin family (family of anti-bacterial peptides) also bind CD196 with a lower affinity. CD196 positive cells, and its ligand CCL20, have been detected in numerous organs, especially the secondary lymphoid organ. CCL20 is selectively made by the follicle-associated epithelium (FAE) overlying Peyer patches (PPs) and isolated lymphoid follicles (ILFs). CCL20 contributes to the recruitment of CCR6-expressing B cells to these structures. In humans, CCR6 can function to mediate arrest of T cells on dermal endothelial cells and is highly expressed on T cells resident in both healthy and diseased skin. CCR6 and/or CCL20 have been implicated in the pathogenesis of inflammatory joints diseases and inflammatory bowel diseases. Human T cells that are able to produce IL-17 express CCR6. It suggests that CCL20 and CCR6 have a role in inflammatory diseases by recruiting Th17 cells to target tissues.



Lysed normal whole blood sample.

### Clone: B-R35 (IgG2a Mouse)

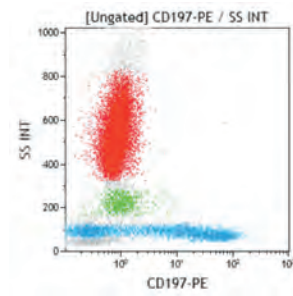
The B-R35 monoclonal antibody specifically binds to CCR6.

Form	Size	Format	Part#	Status	Line	Quality Standard
PC7	0.5 mL	Liquid	B68132	ASR	IOTest	cGMP



## CD197 (CCR7)

CCR7 is G protein-coupled receptors (GPCR) with seven transmembrane receptors. It binds CCL19 and CCL21. CCR7 and its ligands link innate and adaptive immunity through their effects on interactions between T cells and dendritic cells. The chemokine receptor CCR7 plays a pivotal role in the homing of naïve T cells and regulatory T cells to secondary lymphoid organs, and the migration of dendritic cells into afferent lymphatic vessels. Naïve T cells enter the lymph node through high endothelial venules, which express CCL21. Dendritic cells and macrophages enter the lymph node through afferent lymphatics. The encounter of T cells and dendritic cells in the T cell zone is CCR7-dependent. In addition, during immunological surveillance, B lymphocytes recirculate between B-cell-rich compartments (follicles or B zones) in secondary lymphoid organs, surveying for antigen. After antigen binding, B cells move to the boundary of B and T zones to interact with T-helper cells; this B cell migration is directed by CCR7 and its ligands. CCR7-positive cancer cell expression has been associated with lymph node metastasis. By bringing together T cells, B cells, and DCs to form functional microenvironments in secondary lymphoid organs, CCR7 has been identified as a major homing receptor and important regulator for initiating an antigen-specific immune response.



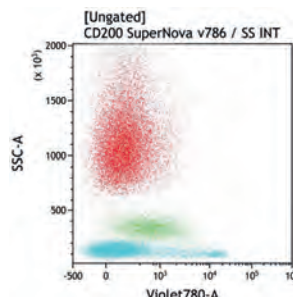
Lysed normal whole blood sample.

Clone: G043H7 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B30632	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B46025	ASR	IOTest	cGMP

## CD200

CD200 is a highly conserved membrane glycoprotein that belongs to the Ig superfamily (IgSF) containing a two immunoglobulin-like domain (V, C), a single transmembrane and a short cytoplasmic domain. Diverse cell types express CD200 on surface, including thymocytes, B cells, activated T and B cells, dendritic cells, neurons and endothelia. CD200 and CD200R are highly conserved type I membrane glycoproteins, which present N-terminal immunoglobulin-like domains based interaction. While the distribution of CD200 expression is very broad, CD200R is primarily expressed in myeloid and lymphoid cells. They fulfill multiple functions in regulating inflammation interaction by promoting inhibitory activities of the immune system. The interaction between CD200/CD200R results in activation of the intracellular inhibitory pathway with RasGAP recruitment and thus contributes to effector cell inhibition. It was confirmed that the CD200R activation stimulates the differentiation of T cells to the Treg subset, upregulates indoleamine 2,3-dioxygenase activity, modulates cytokine environment from a Th1 to a Th2 pattern, and facilitates an antiinflammatory IL-10 and TGF- $\beta$  synthesis. CD200/CD200R are required for maintaining selftolerance. Many studies have demonstrated the importance of CD200 in controlling autoimmunity, inflammation, inhibitory activities, hypersensitivity.



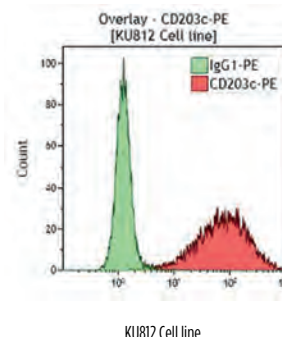
Lysed normal whole blood sample

Clone: OX-104 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C76816	RUO	IOTest	cGMP	NEW
SNv786	0.5 mL	Liquid	C78083	ASR	IOTest	cGMP	NEW
PE	1 mL	Liquid	B68124	ASR	IOTest	cGMP	
PC7	50 tests	Liquid	B92472	CE/IVD	IOTest	IVDR	
PC7	0.5 mL	Liquid	B43299	ASR	IOTest	cGMP	
APC-A750	0.5 mL	Liquid	B43301	ASR	IOTest	cGMP	

## CD203c

The CD203c molecule is a type II transmembrane protein that belongs to the ectonucleotide pyrophosphatase / phosphodiesterase 3 (E-NPP3) family of enzymes involved in hydrolysis of oligonucleotides, nucleoside phosphates, and NAD. Basophils and mast cells are hematopoietic effector cells involved in allergic and inflammatory reactions. Both cell types highly express the high affinity IgE receptor. The CD203c is expressed on human peripheral blood basophils, but not on other blood cells. It is also expressed by mature mast cells, and by CD34+ bone marrow progenitors of basophils and mast cells. Moreover, the CD203c antigen is up-regulated after activation of basophils by anti-IgE antibodies and allergens.



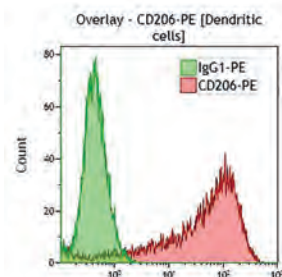
### Clone: 97A6 (IgG1 Mouse)

The 97A6 antibody immunoprecipitates two proteins of 270 and 150 kDa at reducing conditions, and one protein of 270 kDa at nonreducing conditions, suggesting that the 97A6 antigen is a disulfide-linked dimer of two proteins of about 150 kDa each.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	B92404	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM3575	ASR	IOTest	cGMP
PC7	1 mL	Liquid	A66906	ASR	IOTest	cGMP

## CD206 (MMR)

CD206, also named macrophage mannose receptor (MMR), is a type I single-chain transmembrane glycoprotein of 175 kDa with a multilectin receptor structure. The Mannose Receptor is thought to play a key role in the internalization of sugar-containing proteins thus concentrating antigens for transport to processing compartments and peptide loading compartments. First detected on tissue macrophages, the Mannose Receptor is mainly expressed on immature dendritic cells and on a variety of other cells. Absent on lymphocytes and monocytes, the Mannose Receptor is up-regulated on monocytes during their differentiation to macrophages.

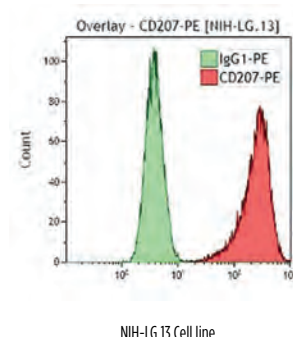


### Clone: 3.29B1.10 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B36119	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM2741	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B36120	ASR	IOTest	cGMP

## CD207 (Langerin)

CD207 (Langerin) is an antigen described as selectively expressed by Langerhans cells (LC), a subset of immature dendritic cells (DC) formed in epidermis and mucosa. Langerin is a 40 kDa glycoprotein predominantly N-glycosylated which contains no disulfide bond. Its expression, restricted to the Langerhans cell lineage, is demonstrated at both the surface membrane and in the cytoplasm. Several lines of evidence indicate that Langerin is a marker specific for the acquisition of the Langerhans cell phenotype. It is down-regulated beyond the LC maturation stage. Langerin is not involved in antigen delivery into the MHC class II pathway but may play a role in antigen capture. Langerin is present only in epidermis and airway epithelia. Langerin is not detected in purified DCs isolated from peripheral blood, lymph nodes or thymus. CD1a<sup>+</sup> DCs derived from CD34<sup>+</sup> cord blood cell cultures in the presence of GM-CSF and TNF- $\alpha$  express Langerin between day 8 and 12. DCs derived from peripheral blood monocytes cultured with GM-CSF and IL-4 do not express Langerin.



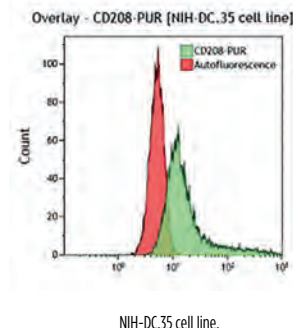
### Clone: DCGM4 (IgG1 Mouse)

The DCGM4 antibody stains exclusively immature DCs of the LC lineage. Both intracytoplasmic and surface membrane staining is observed. DCGM4 acts as a ligand for Langerin, triggering rapid endocytosis within 20 minutes at 37°C. The antibody has been used in intracellular immunofluorescence analyzed in confocal microscopy. The DCGM4 antibody has been used to determine the differentiation of the CD1a<sup>+</sup>/CD11c<sup>+</sup> subset of blood DCs into LCs, and in the characterization of DCs infiltrating breast carcinoma tissue.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM3577	ASR	IOTest	cGMP

## CD208 (DC-LAMP)

The DC-LAMP antigen (70-90 kDa) is a new member of the LAMP (lysosome-associated membrane protein) family. As other LAMP members such as CD68, DC-LAMP is a type I integral membrane protein of 416 amino acid residues, highly glycosylated (7 N- and some O- glycosylation sites), with 90% of the molecule located in the lumen of lysosomes. DC-LAMP is specifically expressed by those mature dendritic cells (DC) located in T cell areas of lymphoid tissues, which are known as interdigitating dendritic cells (IDC). A direct correlation between the expression of DC-LAMP and that of other maturation markers such as CD86 has been established. DC-LAMP first appears in the MHC Class II compartment, suggesting an important contribution of DC-LAMP to the processing of exogenous antigens.



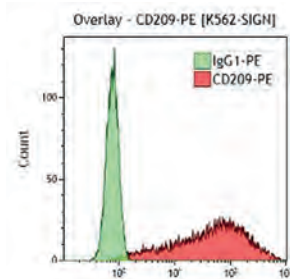
### Clone: 104.G4 (IgG1 Mouse)

In flow cytometry, the 104.G4 antibody shows intracytoplasmic staining of DCs derived either from CD34<sup>+</sup> cell cultures activated with TNF $\alpha$  and CD40L, or from monocyte cultures activated with TNF $\alpha$ , LPS and CD40L.

Form	Size	Format	Part#	Status	Line	Quality Standard
UNLB	0.2 mg	Liquid	IM3448	RUO	-	cGMP

## CD209 (DC-SIGN)

The CD209 antigen, also named dendritic cell (DC)-specific-intracellular adhesion molecule 3 (ICAM-3)-grabbing non-integrin (DC-SIGN), is a 44 kDa type II transmembrane C-type lectin with a single carbohydrate recognition domain (CRD). Like other C-type lectin members, CD209's extracellular structure is able to bind mannose residues in a  $Ca^{++}$  dependent manner. Highly specific to DCs, CD209 plays a key role in the primary immune response as receptor / processor for a variety of ligands, including: ICAM-3: initiation of DC-T cell immunological synapse; ICAM-2: transendothelial DC migration; HIV-1 gp120: capture of HIV-1 and transpresentation to  $CD4^{+}$  T cells; CMV envelope glycoprotein B: capture of CMV; Unknown ligands: capture of Ebola virus, and of Leishmania amastigotes. CD209 is expressed by immature DCs in peripheral tissues, with the noticable exception of Langerhans cells. It is also expressed by DCs in lymphoid tissues, and by certain macrophages. In peripheral blood, a percentage of plasmacytoid DCs (or DC2) may also express CD209. It is totally absent from monocytes, and an observed up-regulation of CD209 expression on monocyte-derived DCs correlates with the down-regulation of CD14. Monocyte-derived macrophages may express CD209, only when cultured in the presence of IL-13.



K562-SIGN Cell line.

### Clone: AZND1 (IgG1 Mouse)

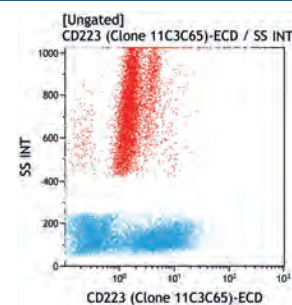
The AZND1 monoclonal antibody (mAb) is useful for many purposes, including flow cytometric analysis of CD209-expressing cells, immunohistochemical analysis of CD209<sup>+</sup> cells on frozen tissue sections, immunoprecipitation of CD209 antigen, and investigation of its functions, due to the blocking or inhibiting properties of AZND1 mAb. The AZND1 mAb to DC-SIGN has been assigned to the CD209 cluster of differentiation during HLDA 7.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	A07407	RUO	IOTest	cGMP

## CD223 (LAG-3)

CD223 also known as LAG-3 (Lymphocyte-activation gene 3) is a 70 kDa type I transmembrane protein with one modified V-set Ig superfamily domain followed by 3 C2-set Ig domains. It has homology with CD4. CD223 is expressed on activated T and NK cells, expressed at higher levels on CD8 than CD4 cells, on activated B cells and plasmacytoid dendritic cells. LAG-3 also has been reported to be specifically expressed on regulatory T cells of the Tr1 type.

CD223 binds to MHC class II and regulates the expansion of antigen-specific immune responses. LAG-3 is an inhibitory checkpoint which plays an important role in modulating T cell expansion and function. In addition, the interaction between LAG-3 and its major ligand, Class II MHC, is thought to play a role in modulating dendritic cell function.



Activated peripheral blood Lymphocytes (PBL)

### Clone: 11C3C65 (IgG1 Mouse)

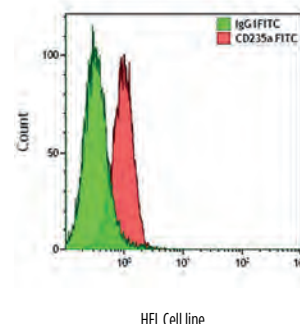
Form	Size	Format	Part#	Status	Line	Quality Standard
ECD	50 tests	Liquid	C74034	RUO	IOTest	cGMP

NEW



## CD235a (Glycophorin A)

The CD235a antigen, also called Glycophorin A, is a transmembrane, single-pass glycoprotein that contains carbohydrate, mostly in the form of sialic acid. CD235a has a molecular weight of 10 kDa. It is expressed by erythroid precursors and erythrocytes. Glycophorin A carries the antigen determinants for the MNS blood groups and has been proposed to be an inhibitor of hemagglutination and hemolysis. Glycophorin A binds siglec 5, and may also serve as receptor for cytokines and pathogens, including the malaria parasite, *Plasmodium falciparum* and some viruses, including influenza virus and hepatitis A virus.



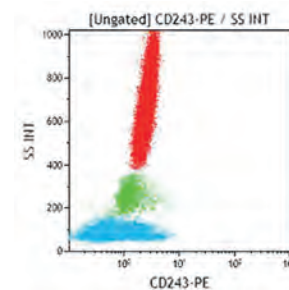
### Clone: 11E4B-7-6 (IgG1 Mouse)

The 11E4B-7-6 (KC16) antibody binds to the amino acid sequence 27-39 of glycophorin A and has no reactivity to glycophorin B. It reacts with immature erythrocytes including erythroblasts, proerythroblasts and reticulocytes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>B49206</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>IM2212U</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07792</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>IM2211U</b>	ASR	IOTest	cGMP
<b>PC7</b>	1 mL	Liquid	<b>A71564</b>	ASR	IOTest	cGMP
<b>APC-A750</b>	0.5 mL	Liquid	<b>A89314</b>	ASR	IOTest	cGMP

## CD243 (P-glycoprotein)

The CD243 antigen (P-gp) is the 170-180 kDa multi-drug resistance (mdr)-1 gene product. This protein carries out ATP-dependent efflux of structurally diverse lipophilic compounds, including many anti-cancer chemotherapy agents. In hematopoietic cells, the mdr1 gene product is expressed, but at relatively low levels. P-gp is expressed in specialized epithelial cells with secretory or excretory functions. In the liver, P-gp is found on the biliary surface of hepatocytes and small biliary ductules; in the pancreas, on the laminal surface of epithelial cells of small ductules and, in the kidney, on the brush border of the proximal tubules. Additional sites of expression include the gastrointestinal tract, endothelial cells of the brain and the adrenal glands.



Lysed normal whole blood sample.

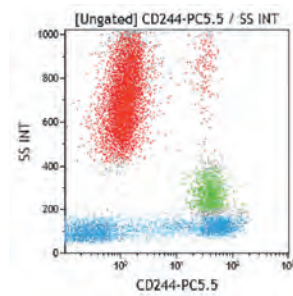
### Clone: UIC2 (IgG2a Mouse)

The UIC2 antibody reacts with an external epitope of the human P-glycoprotein (P-gp). UIC2 antibody inhibits Pgp-mediated efflux and potentiates the cytotoxic action of P-gp transported drugs in MDR cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	2 mL	Liquid	<b>IM2370U</b>	ASR	IOTest	cGMP

## CD244 (2B4)

The CD244 antigen, also called 2B4, is a 38 kDa cell surface signal transduction molecule found on almost all human NK cells. It induces a granule independent killing mechanism by NK effector cells. It is also found on  $\gamma\delta$  TCR T cells and approximately half of peripheral  $\alpha\beta$  TCR CD8<sup>+</sup> T cells. It is not found on B or naïve CD8<sup>+</sup> T cells. Upon activation, most CD8<sup>+</sup> T cells become CD244-positive. However, a small but significant minority of CD8<sup>+</sup> T cells remain CD244-negative. This subset is associated with lower cytotoxic activity, lower  $\gamma$ -IFN production and higher IL-4 and IL-10 production. CD244 is a high affinity receptor for CD48.



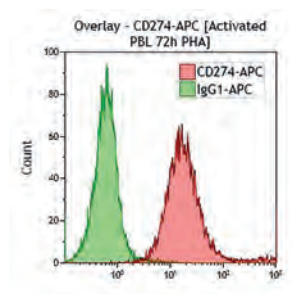
Lysed normal whole blood sample.

Clone: C1.7 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PC5.5	0.5 mL	Liquid	B21171	ASR	IOTest	cGMP

## CD274 (PD-L1)

The CD274 antigen is known as Programmed Cell Death 1 ligand 1 (PDCD1LG1 or PD-L1) or B7-H1. It is encoded by a gene located on the human chromosome 9p24. Immune cell function implicates important modulators known as cosignaling receptors. On T cells, the cosignaling receptors belong to either the immunoglobulin (CD28-like) or TNF receptor (TNFR) superfamilies. The CD28 immunoglobulin-superfamily is composed of coinhibitory (CD28, ICOS) and costimulatory receptors. Programmed Death-1 (PD-1) is one of the three coinhibitory receptors with Cytotoxic T Lymphocyte Antigen 4 (CTLA4) and CD272. CD274 antigen is one of the two ligands, with PD-1 ligand 2 (PD-L2), for PD-1 and belongs to the B7 family. The PD-1 - PD-L1 interaction plays a critical role in regulating T cell activation and tolerance. In particular, it plays a role during development by inhibiting the TCR-mediated positive selection of thymocytes. It has also been shown to be implicated in the regulation of CD4 positive T cells proliferation. CD274 antigen is expressed on immature dendritic cells (iDC), mature dendritic cells (mDC), IFN- $\gamma$ -treated monocytes, and follicular dendritic cells.



Activated PBL 72h PHA.

Clone: PD-L1 (IgG1 Mouse)

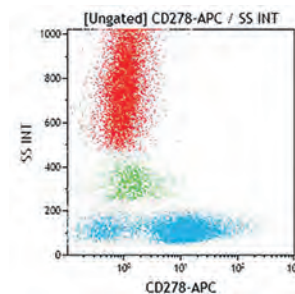
The PD-L1 monoclonal antibody recognizes dendritic cells, T cells and follicular dendritic cells. It has been assigned to the CD274 cluster of differentiation during the 8th HLDA Workshop on Human Leukocyte Differentiation Antigens, held in Adelaide, Australia, in 2004.

Form	Size	Format	Part#	Status	Line	Quality Standard
PC7	50 tests	Liquid	A78884	RUO	IOTest	cGMP
APC	0.5 mL	Liquid	B36126	ASR	IOTest	cGMP

## CD278 (ICOS)

The CD278 antigen, also known as ICOS molecule (inducible T-cell costimulator, Inducible Costimulator), is a disulfide-linked homodimeric T-cell surface glycoprotein of 55-60 kDa, which belongs to the CD28 and CTLA-4 cell-surface receptor family. The CD278 molecule plays an important role in cell-cell signaling, immune responses, and regulation of cell proliferation. While CD278 antigen is not constitutively expressed on naïve peripheral blood T cells, it is highly expressed on unstimulated thymocytes of germinal centers, showing a role in T cell differentiation. Upon activation by antigen presenting cells, T cells (CD4 positive cells and CD8 positive cells) express inducible co-stimulatory receptors, including CD28, CTLA4 and ICOS. The resulting interaction of CD278 (ICOS) with its ligand ICOS-L (B7-like molecule present on B cells) participates to interleukin production, especially IL-10 and IL4. The central role of CD278 in the generation and maintenance of humoral immunity has also been shown to be important. Upon the co-stimulation of T cells through ICOS and CD28, ICOS binds its ligand ICOS-L leading to IgG and IgM secretion as well as IgE production. It is not expressed on resting peripheral T cells, B cells, NK cells, monocytes/macrophages, platelets and granulocytes.

**Clone: ISA-3 (IgG1 Mouse)**



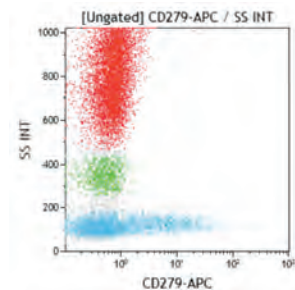
Lysed normal whole blood sample.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>A49080</b>	RUO	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B36127</b>	ASR	IOTest	cGMP

## CD279 (PD-1)

The CD279 antigen, also known as Programmed Death 1 (PD-1), belongs to the immunoglobulin superfamily. It contains an immunoreceptor tyrosine-based inhibitory motif (ITIM) in its cytoplasmic tail. It is encoded by the PDCD1 gene, which is located on the human chromosome 2q37.3. Immune cell function implicates important modulators known as cosignaling receptors. On T cells, the cosignaling receptors belong to either the immunoglobulin (CD28-like) or TNF receptor (TNFR) superfamilies. The CD28 immunoglobulin-superfamily is composed of coinhibitory and costimulatory receptors. Programmed Death-1 (PD-1) is one of the coinhibitory receptors, with notably Cytotoxic T Lymphocyte Antigen 4 (CTLA4) and CD272 (BTLA). The interaction of PD-1 with its ligands, PD-L1 and PD-L2, plays a critical role in regulating T cell activation and tolerance.

**Clone: PD1.3 (IgG2b Mouse)**



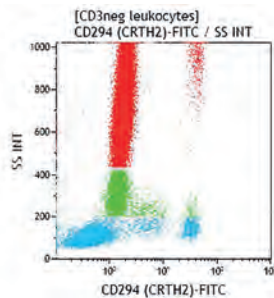
Lysed normal whole blood sample.

The PD1.3 monoclonal antibody recognizes T cells, activated CD4 and CD8 positive cells and activated B cells. This antibody has been assigned to the CD279 cluster of differentiation during the 8th HLDA Workshop on Human Leukocyte Differentiation Antigens, held in Adelaide, Australia, in 2004.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>B30634</b>	ASR	IOTest	cGMP
<b>PC5.5</b>	0.5 mL	Liquid	<b>B36123</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>A78885</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B30633</b>	ASR	IOTest	cGMP

## CD294 (CRTH2)

CD294, also known as CRTH2, is a seven-transmembrane G-protein-coupled receptor known as the chemoattractant receptor-homologous molecule expressed on Th2 cells. Prostaglandin D receptor (DP), and CRTH2 have been identified as receptors for Prostaglandin D2 (PGD2), but they differ in their signaling pathways. PGD2 is the major metabolite of arachidonic acid produced by allergen-activated mast cells. CRTH2 molecule is preferentially expressed on human T-helper (Th) 2 and T cytotoxic (Tc) 2 cells but not on Th1 and Tc1 cells. CRTH2 is the most reliable surface marker selectively associated with circulating T (Th and Tc) cells able to produce IL-4 (as well as IL-5 and IL-13) and not IFN $\gamma$ . On normal whole blood leucocytes, CD294 is also highly expressed on basophils and eosinophils. The expression of CD294 in peripheral blood mononuclear cells (PBMCs) is restricted to an activated state of Type 2 cells. CD294 may be weakly expressed on some monocytes and/or dendritic cells (CD14dim,CD16pos,HLA-DRpos,CD33pos). CD294 may act in mediating the recruitment and/or activation of basophils, eosinophils and Th2 cells at sites containing mast cells activated by invading allergens. CRTH2, but not DP, induces migration of Th2 cells, eosinophils and basophils in response to PGD2.



Lysed normal whole blood sample. Gating on CD3 negative leukocytes.

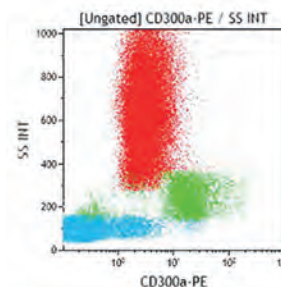
### Clone: BM16 (IgG2a Rat)

The BM16 monoclonal antibody precipitates a 55 to 70 kDa protein from cell lysates of CRTH2-transfected Jurkatt and Th2 clone, corresponding to PGD2 receptor.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B42020</b>	ASR	IOTest	cGMP
<b>PE</b>	100 tests	Liquid	<b>A07413</b>	RUO	IOTest	cGMP

## CD300a (IRp60)

The CD300a, also known as inhibitory receptor protein (IRp60), is a surface molecule of 60 kDa expressed by all human natural killer (NK) cells. The IRp60 gene, located on human chromosome region 17q25 encodes a molecule, highly O- and N-glycosylated, belonging to the immunoglobulin superfamily (Ig-SF) that displays one extracellular Ig-like domain of the V-type, a hydrophobic transmembrane portion and a cytoplasmic tail containing ITIM motifs involved in the inhibitory function. The ligand of the CD300a is still unknown but CD300a does not appear to recognize HLA-class I molecules. Upon cross-linking, IRp60 recruits and activates SH2-containing phosphatases SHP-1 and SHP-2 which switch off the activating signaling cascade by dephosphorylating a variety of tyrosine phosphorylated proteins. Cross-linking of IRp60 by E59.126 monoclonal antibody strongly inhibits the spontaneous cytotoxicity of NK cells as well as the NK-mediated cytolytic activity induced via different non-HLA-specific or HLA-specific activating receptors. CD300a may play a more general role in the regulation of the immune response since it is expressed on other cell types, including T lymphocyte subsets, monocytes and granulocytes.



Lysed normal whole blood sample.

### Clone: E59.126 (IgG1 Mouse)

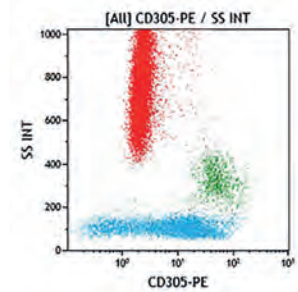
The E59.126 antibody has been used in flow cytometry and Western blotting to characterize IRp60.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>A22328</b>	ASR	IOTest	cGMP



## CD305 (LAIR1)

CD305, also called LAIR1 (Leucocyte-associated Ig-like receptor 1), is a 31 kDa type 1 transmembrane molecule with a single N terminal extracellular Ig superfamily C2 domain. The extracellular domain contains one N-glycosylation site. CD305 is expressed on the majority of lymphocytes, NK cells, monocytes, dendritic cells and naïve B cells. It inhibits cell cytotoxicity, cell activation, proliferation and differentiation by phosphorylation of its cytoplasmic ITIM motifs.



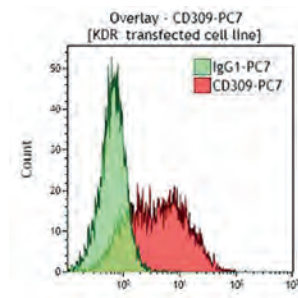
Lysed normal whole blood sample.

Clone: NKTA255 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B68156	ASR	IOTest	cGMP

## CD309 (KDR)

CD309 antigen, also called KDR (Kinase insert domain receptor), or flk-1 (Fetal liver kinase 1) belongs to the VEGF (vascular endothelial growth factor) receptor family. It is known as the VEGFR-2 and is one of the three cell signaling tyrosine-kinase receptors of the VEGF family [VEGFR-1 (flt-1), VEGFR- 2 (KDR/flk-1), VEGFR-3 (flt-4)] and plays a key role in vascular development and regulation of vascular permeability. These receptors are transmembrane proteins that contain seven immunoglobulin-like domains in their extracellular part and two tyrosine kinase domain in their intracellular part. The KDR gene maps to the chromosome 4q11-q12. CD309 is the receptor for VEGF but it also binds VEGF-C, VEGF-D, and VEGF-E. Through the binding to CD309, which is expressed almost in endothelial cells, VEGF induces endothelial cell proliferation, and promotes cell migration. CD309 is expressed during early stages of embryogenesis. It has also been shown that VEGF can induce, in vivo, angiogenesis as well as permeabilization of blood vessels, and plays a central role in the regulation of vasculogenesis. This antigen is expressed on CD34 positive cells defining a CD34<sup>+</sup> CD309<sup>+</sup> common precursor for both hematopoietic cells and endothelial cells called hemoangioblast.



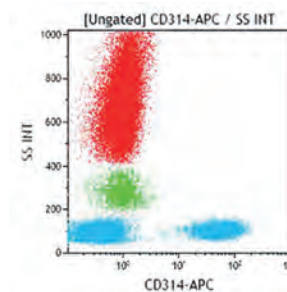
KDR transfected Cell line.

Clone: KDR-1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	A64615	ASR	IOTest	cGMP
PC7	1 mL	Liquid	A64616	ASR	IOTest	cGMP

## CD314 (NKG2D)

CD314, also known as NKG2D, is a 42 kDa type II transmembrane protein belonging to the C-type lectin superfamily. The name NKG2D may be misleading as it is not a typical NKG2 family member. It has low homology with the other members and dimerizes with itself to form a homodimer while other members dimerize with CD94. The surface expression of NKG2D requires association with a signaling adaptor protein, a KAP10 (DAPI0) homodimer that contains a Y-x-x-M motif. Upon tyrosine phosphorylation, that motif recruits and activates phosphatidylinositol 3' (PI 3)-kinase. Unlike natural cytotoxicity receptors (NCRs), NKG2D is not only expressed by all NK cells but also by most  $\gamma\delta$  T cells and by virtually all CD8 $\alpha\beta$  T cells. In addition, its expression can be up-regulated on NK cells by different cytokines (IL-15, IL-12 and IFN- $\gamma$ ). Human CD314 ligands identified so far are MICA and MICB, stress-inducible and broadly expressed molecules on tumors of epithelial origin, some melanomas, and ULBPs, targets of the human CMV protein, expressed on a wide range of cells. NKG2D triggering would appear to overrule the inhibitory signals delivered by the KIR and HLA class I interactions. NKG2D might play a complementary role in the NK-cell mediated lysis of target cells that appear to express HLA class I molecules normally and that express one or more NKG2D-specific ligands.



Lysed normal whole blood sample.

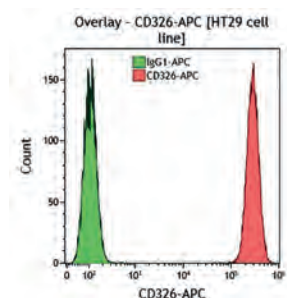
### Clone: ON72 (IgG1 Mouse)

The ON72 antibody has been used in flow cytometry to analyze the expression of NKG2D on NK cells. ON72 cross reacts with: African Green, Chimpanzee, Common Marmoset.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	A08934	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	A22329	ASR	IOTest	cGMP

## CD326 (EpCAM)

CD326 also known as EpCAM (Epithelial Cell Adhesion Molecule) is a 40 kDa type I transmembrane glycoprotein expressed at the cell surface of a variety of epithelial cells. CD326 is a hemophilic Ca<sup>2+</sup> independent cell-cell adhesion molecule which plays a major role in intercellular adhesion. Additionally it has been described to play an important role in cell signaling, proliferation, differentiation and maintenance of organ morphology. In the field of oncology, CD326 is a key marker for the isolation and identification of circulating tumor cells.



HT29 cell line.

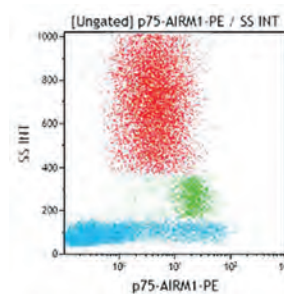
### Clone: VU1D9 (IgG1 Mouse)

The monoclonal antibody VU1D9 recognizes an epitope within EGF like domain I of CD326.

Form	Size	Format	Part#	Status	Line	Quality Standard
APC	0.5 mL	Liquid	B90408	ASR	IOTest	cGMP

## CD328 (p75 AIRM1)

The p75 adhesion inhibitory receptor molecule 1 (p75/AIRM1), also known as Siglec-7, belongs to the CD33-related Siglec subgroup. p75 AIRM1 is a type I transmembrane glycoprotein, belonging to the immunoglobulin superfamily (Ig-SF) and sharing sequence homology with the sialic acids binding Ig-like lectins. The extracellular domain of the p75/AIRM1 molecule is relatively highly N-glycosylated and displays three extracellular Ig-like domains. The cytoplasmic tail is characterized by a classical ITIM motif responsible for the inhibitory functions of this receptor. p75 AIRM1 is expressed on activated and resting NK cells, monocytes, some chronic (CML) and acute myeloid leukemias (AML). p75 AIRM1 is a novel, HLA independent, inhibitory receptor that may play a relevant role in the negative regulation of human NK cell functions.



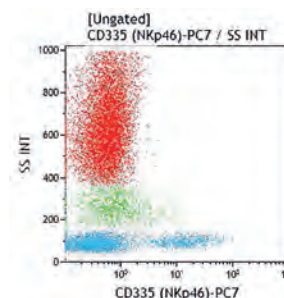
Lysed normal whole blood sample.

Clone: Z176 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	A22330	RUO	IOTest	cGMP

## CD335 (NKp46)

CD335, also known as NKp46, is a 46-kDa transmembrane glycoprotein which is a NK-specific triggering receptor involved in non-MHC-restricted natural cytotoxicity and considered the prototype of the NK natural cytotoxicity receptors (NCRs). Its expression is restricted to all resting and activated NK cells, including the minor CD3<sup>+</sup>CD56<sup>bright</sup>CD16<sup>-</sup> subset. Although CD335 is highly expressed at the NK-cell surface in the majority of donors, some individuals have a proportion of NK cell (which vary up to 90%) expressing a "dull" NKp46 phenotype. CD335 is a member of the immunoglobulin superfamily characterized by two extracellular C2-type Ig-like domains. It is associated with the ITAM bearing molecules CD3 $\zeta$  and Fc $\epsilon$ R1 $\gamma$ . Although this association is likely to be essential for signal transduction via NKp46, CD3 $\zeta$  is not required for NKp46 surface expression. NKp46 represents a major activating receptor and plays a central role in the lysis and clearance of HLA class I<sup>+</sup> cells. The magnitude of lysis correlates with its level of surface expression.



Lysed normal whole blood sample.

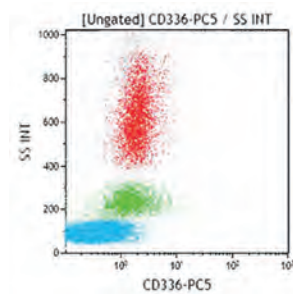
Clone: BAB281 (IgG1 Mouse)

BAB 281-mediated masking of NKp46 molecule inhibits NK cytotoxicity versus different target cells. In redirected killing assays, BAB281 binding to NKp46 induces a strong increase of cytolytic activity. Although hemagglutinins of viral origins have been identified as ligands for NKp46 receptor, the natural (non-viral) ligand for NKp46 is unknown. BAB281 cross reacts with: Cynomolgus Monkey, African Green, Chimpanzee, Olive Baboon, Common Marmoset.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3711	ASR	IOTest	cGMP
PC5	0.5 mL	Liquid	A66902	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B38703	ASR	IOTest	cGMP

## CD336 (NKp44)

CD336, also known as NKp44, is a 44-kDa transmembrane glycoprotein which is selectively expressed by activated NK cells. NKp44 functions as a triggering receptor involved in non-MHC-restricted natural cytotoxicity by activated NK cells and is one of the NK natural cytotoxicity receptors (NCRs). Structurally, CD336 is a member of the immunoglobulin superfamily characterized by a single extracellular V-type Ig-like domain. It associates with a homodimer of ITAM motif-containing KARAP / DAP12 adaptor proteins. These adaptor proteins were found to be crucial both for the surface expression of NKp44 and for transducing activating signal. CD336 can mediate triggering of NK cell cytotoxicity as in redirected killing assays. Monoclonal antibody Z231-mediated cross-linking of NKp44 in cloned NK cells resulted in strong lysis of target cells and, Z231-mediated masking of NKp44 partially inhibits cytolytic activity. Such inhibition is greatly increased if an anti-CD335, also known as anti-NKp46 (BAB281), is combined with Z231. The CD336 ligand is still undefined. Since activated NK cells selectively express NKp44, it may play a partial role in the enhanced cytotoxicity of IL2-activated compared to those freshly isolated NK cells from peripheral blood.



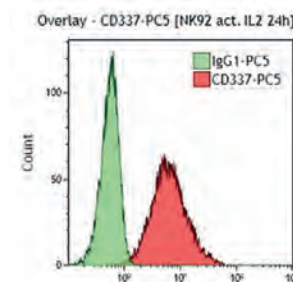
Lysed normal whole blood sample.

Clone: Z231 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3710	ASR	IOTest	cGMP
PC5	0.5 mL	Liquid	A66903	ASR	IOTest	cGMP

## CD337 (NKp30)

CD337, also known as NKp30, is a 30-kDa transmembrane glycoprotein which is a NK-specific triggering receptor involved in non-MHC-restricted natural cytotoxicity. NKp30 is strictly expressed by all resting and activated NK cells including the minor CD3<sup>+</sup>CD56<sup>bright</sup>CD16<sup>-</sup> subset. With NKp46 and NKp44 it is one of the three identified NK natural cytotoxicity receptors (NCR). Its surface expression parallels that of NKp46. NKp46<sup>dull</sup> NK cells are also characterised by a NKp30<sup>dull</sup> phenotype while NKp46<sup>bright</sup> NK cells show a NKp30<sup>bright</sup> phenotype. The NKp30<sup>bright</sup> or NKp30<sup>dull</sup> phenotypes are correlated with high or low cytotoxicity, respectively. CD337 is a member of the immunoglobulin superfamily characterized by a single extracellular V-type Ig-like domain. It is associated with a homodimer of ITAM motif-containing CD3 $\zeta$  adaptor proteins. These adaptor proteins are not necessary for surface expression of NKp30, but are necessary for signal transduction. In redirected killing assays, Z25-mediated cross linking of NKp30 induces strong NK cell activation. Conversely, Z25-mediated masking of NKp30 inhibits NK cytotoxicity against target cells. More importantly, CD337 represents the major receptor in induced NK-mediated killing of certain target cells, the lysis of which is largely NKp46 / NKp44 independent. Although the CD337 ligand is unknown, studies report NKp30-mediated lysis of immature dendritic cells (iDC). These findings suggest that DCs express one or more unidentified ligands for CD337.



NK92 act. IL2 24h Cell line.

Clone: Z25 (IgG1 Mouse)

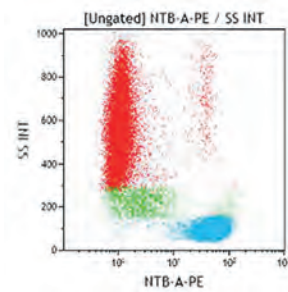
The Z25 antibody has been used in flow cytometry to analyze the expression of NKp30 on NK cells. Z25 cross reacts with: Cynomolgus Monkey, Indian Rhesus, African Green, Chimpanzee, Olive Baboon, Common Marmoset.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM3709	ASR	IOTest	cGMP
PC5	0.5 mL	Liquid	A66904	ASR	IOTest	cGMP



## CD352 (NTB-A)

The natural killer (NK), T lymphocyte, B lymphocyte antigen (NTB-A) is a 60-kDa transmembrane glycoprotein of the CD2 family expressed on all human resting and activated NK, T and B cells. This antigen is not expressed on monocytes, neutrophils, and basophils but is expressed on eosinophils. The NTB-A antigen, a 331 amino acid protein, is a member of the immunoglobulin (Ig) superfamily. It is characterized, in its 225 amino acid extracellular domain, by one distal V-type domain without disulfide bond and two proximal C2-type domains, and in its 83 amino acid cytoplasmic domain by three tyrosine residues. One tyrosine residue is part of an ITIM motif and two are parts of an ITSM motif (TxYxxV/I). NTB-A is its own ligand through an homophilic binding. NTB-A associates with two adaptor proteins, the SLAM-associated protein (SAP) also known as SH2D1A and the Ewing's sarcoma activated transcript (EAT) 2. In NK cells, NTB-A acts as an activating coreceptor.



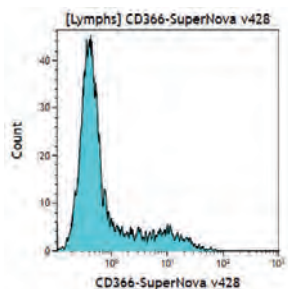
Lysed normal whole blood sample.

Clone: MA127 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	A40926	RUO	IOTest	cGMP

## CD366 (TIM-3)

CD366 also known as TIM-3 (T-cell immunoglobulin and mucin containing protein-3) is a type I transmembrane protein that in humans is encoded by the HAVCR2 gene. TIM-3 is expressed on activated human CD4<sup>+</sup> T cells and regulates Th1 and Th17 cytokines. TIM-3 acts as a negative regulator of Th1/Tc1 function by triggering cell death upon interaction with its ligand, galectin-9. TIM-3 is also known to be expressed on certain innate immune cells, including NK cells, macrophages, DCs, and mast cells. TIM-3 plays an important role in immunity, the dysregulation of TIM-3 expression has been associated with autoimmune diseases, viral infections and cancer and it's expression on numerous cell types (T cell, Treg, dendritic cell, myeloid cells) favors tumor escape to immune cells.



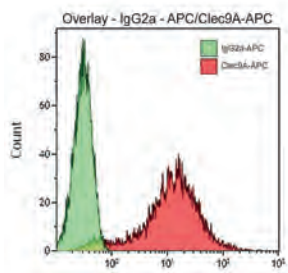
Stimulated normal whole blood.

Clone: F38-2E2 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard	
SNv428	50 tests	Liquid	C74033	RUO	IOTest	cGMP	NEW

## CD370 (Clec9A)

CLEC9A is a group V C-type lectin receptor (CTLR) comprised of a single extracellular C-type lectin domain (CTLD) connected to the transmembrane domain by a stalk region and an intracellular cytoplasmic tail. In humans, CLEC9A is expressed on the cell surface of a subset of Dendritic cells (DCs) and a subset of CD14<sup>+</sup>CD16<sup>+</sup> Monocytes. In dendritic cells, CLEC9A is selectively expressed on CD141<sup>+</sup> (BDCA3<sup>+</sup>) dendritic cells. As opposed to other DC markers, CLEC9A presents the advantage of being expressed in both human and mouse DCs. Thus, it can serve as a DC marker crossing species barriers and may help in the translation from the mouse DC system to human immunobiology.



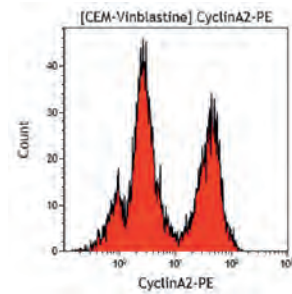
K562 Clec9A cell line.

Clone: 8F9 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
APC	0.5 mL	Liquid	B43291	ASR	IOTest	cGMP

## Cyclin A2

In humans, there are two A-type cyclins – an embryonic-specific cyclin A1 and a somatic cyclin A2. Cyclin A1 is only expressed in meiosis and very early embryos, whereas cyclin A2 is present in proliferating somatic cells. Cyclin A2 is a 48 kDa protein composed of 432 amino-acids. Cyclins control the activation of cyclin dependent kinases (CDKs) by associating with them to form a cyclin-CDK complex able to phosphorylate selected proteins and to induce downstream processes. The cyclin A2-CDK2 complex initiates DNA replication and is required for S phase progression. For passage through G2 to M phase, cyclin A2 complexes to the CDK1 (also called CDC2). Cyclin A2 is degraded via the ubiquitin-dependant proteolysis pathway in the early phases of mitosis.



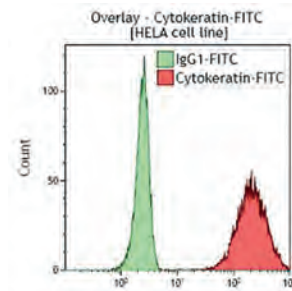
Human lymphoid cell line (CEM) + Vinblastine.

Clone: 11B2G3 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>A22327</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>B15092</b>	ASR	IOTest	cGMP

## Cytokeratin

Cytokeratins belong to the intermediate filament protein family and are characteristic of epithelial cells. At present, more than 20 different cytokeratins have been identified based on the original two dimensional gel electrophoresis classification. A sub classification, based on charge, divides cytokeratins into two subfamilies: the acidic (negatively charged) cytokeratin (type I) and the neutral to basic (positively charged) cytokeratin (type II). They are typically expressed as pairs, consisting of one acidic and one basic molecule.



HELA Cell line.

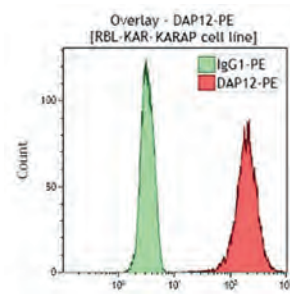
Clone: J1B3 (IgG1 Mouse)

This monoclonal antibody exclusively reacts with cells of epithelial origin, and shows a cytoplasmic staining pattern. It can be used as a gating tool in flow cytometry to distinguish epithelial from non-epithelial cells. Multi-color flow cytometric analysis requires preliminary permeabilization of the cells with digitonin or methanol.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM2356U</b>	ASR	IOTest	cGMP

## DAPI12 (DNAX / KARAP / TYROBP)

The DAPI12 antigen (DNAX activating protein of 12 kDa) is a type I transmembrane glycoprotein which is also known as KARAP (killer cell activating receptor-associated protein) or TYROBP (tyrosine kinase binding protein). It is encoded by a gene located on the chromosome 19q13 and contains an intracytoplasmic immunoreceptor tyrosine-based activation motif (ITAM). The DAPI12 antigen associates with a large family of receptors in hematopoietic cells conferring to this antigen a broad range of intracellular signaling functions. Interestingly, it has been shown to both potentiate or inhibit leukocytes activation. When associated with KIRs (stimulatory killer Ig-like receptors), the adaptor molecule DAPI12 functions as an activation unit leading to the T cell activation. It has also been shown that the activation of the syk/ZAP70 tyrosine kinases by DAPI12 plays a role in the stimulation of NK cells and T cells. On the contrary, the DAPI12 association with other receptors such as Fc receptor  $\gamma$ -chain and CD3 $\zeta$  may lead to the regulation of T cell immune response.



RBL-KAR-KARAP Cell line.

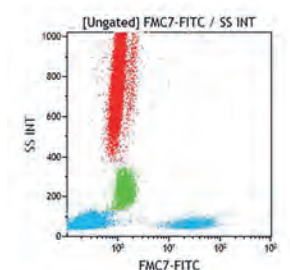
### Clone: H10E12F4 (IgG1 Rat)

The H10E12F4 monoclonal antibody recognizes monocytes, neutrophils, dendritic cells, NK cells and to a lesser extend basophils, and B lymphocytes. It does not recognize CD4 and CD8 T cells or B cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	A78886	RUO	IOTest	cGMP

## FMC7 (CD20)

FMC7 is a transmembrane glycoprotein with a molecular weight of 105 kDa. This antigen was described as a particular conformation of a surface protein encoded by the CD20 gene. FMC7 antibody reactivity to its particular CD20 epitope was found to be dependent of membrane cholesterol level. In circulating blood cells, FMC7 is expressed by a B lymphocyte sub-population. It is not detected on T lymphocytes, NK cells, polymorphonuclear granulocytes, platelets, nor on erythrocytes. The subpopulation of B lymphocytes expressing the FMC7 antigen expresses surface immunoglobulins, thus defining a stage of maturation of the B lymphocytes distinct from FMC7<sup>-</sup> B lymphocytes.



Lysed normal whole blood sample.

### Clone: FMC7 (IgM Mouse)

The FMC7 antibody reacts with a subpopulation of peripheral blood B lymphocytes and tonsil B cells, but it does not react with granulocytes, monocytes, platelets, erythrocytes, T lymphocytes or null cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B96782	CE/IVD	IOTest	IVDR
PB	0.5 mL	Liquid	B08466	ASR	IOTest	cGMP
FITC	100 tests	Liquid	A07791	CE/IVD	IOTest	IVDR
FITC	1 mL	Liquid	IM1364U	ASR	IOTest	cGMP

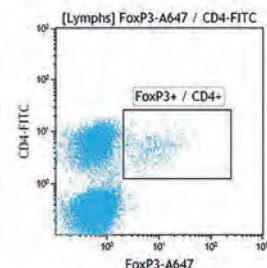
## FoxP3

FoxP3 (Forkhead box protein P3, also known as Scurfin, JM2, or IPEX), is the major transcription factor that determines the fate and identity of CD4<sup>+</sup> CD25<sup>+</sup> Treg cells. It is constitutively expressed in natural Tregs (nTregs) and acts as the master regulator in nTreg development and suppressive function. nTreg (CD4<sup>+</sup> CD25<sup>+</sup> FoxP3<sup>+</sup> Treg cells) are important regulators of almost all immune responses, and they mediate suppressive functions both through the production of cytokines and direct cell-cell contacts. nTreg cells exit in the thymus, circulate and migrate to secondary lymphoid tissues, as well as to inflammatory sites, to exert suppressor activities. FoxP3 expression can also be directly induced in peripheral naïve CD4<sup>+</sup> CD25<sup>-</sup> T cells, forming inducible Treg (iTreg) cells that also suppress immune responses. Diminished Treg cell development and function has been linked to auto-immunity and allergy whereas elevated Treg cell responses might play a role in undermining anti-infectious and anti-cancer immunity. FoxP3 contains 3 discernible functional domains, a single C2H2 zinc-finger motif, a leucinezipper-like motif, and a C-terminal forkhead domain, thereby exerting its positive and negative function as transcription factor. FoxP3 acts as transcriptional activator for genes that are typically up-regulated in nTregs while it represses transcription of both Th1 and Th2 cytokines in nTregs. FoxP3 can also exert regulatory capacity via protein-protein interactions.

### Clone: 259D (IgG1 Mouse)

The monoclonal antibody 259D detects endogenous levels of human FoxP3 transcription factor.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B90432	ASR	IOTest	cGMP
PE	1 mL	Liquid	B46031	ASR	IOTest	cGMP
PC7	0.5 mL	Liquid	B46032	ASR	IOTest	cGMP
AF647	0.5 mL	Liquid	B30650	ASR	IOTest	cGMP



Permeabilized normal whole blood sample. Gating on lymphocytes. Dual staining with CD4-FITC and FoxP3-A647.

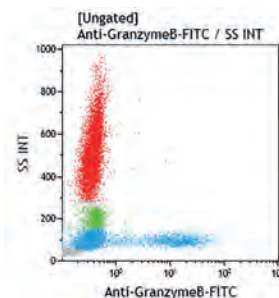
## Granzyme B

Granzyme B (GrB) is a single chain and single domain serine protease. It is a member of the chymotrypsin superfamily. The process of GrB glycosylation results in generation of a 32 kDa and a 35 kDa glycosylated forms of GrB. The 32 kDa GrB forms contain high mannose oligosaccharide moieties and accumulate in cytotoxic T lymphocytes (CTLs) after T cell receptor (TCR) stimulation. In contrast, the 35 kDa GrB forms, which possess only the complex oligosaccharide groups, are not stored in CTLs and instead they are secreted through the constitutive calcium-independent secretory pathway after TCR activation. GrB is the most abundant serine protease stored in secretory granules of CTLs and NK cells. GrB can be produced by plasmacytoid dendritic cells (peacs). GrB-induced cell death is a primary mechanism in cytotoxic T lymphocytes (CTLs) and natural killer (NK) cells to eliminate harmful target cells including allogeneic, virally infected and tumor cells. This mechanism implies activation of several pro-apoptotic pathways by direct proteolysis. The mannose 6-phosphate receptor has been identified as the plasma membrane receptor for GrB.

### Clone: GB11 (IgG1 Mouse)

GB11 cross reacts with: Mouse, Rat.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	1 mL	Liquid	B46038	ASR	IOTest	cGMP

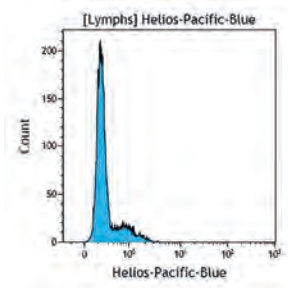


Lysed normal whole blood sample.



## Helios

Helios belongs to the Ikaros transcription factor family. Members of this family are DNA binding proteins containing two-zinc finger N terminal domains and protein binding domain. Helios expression is restricted to the T lymphocytes lineage. Helios is suggested to play an important role in CD4+CD25+FoxP3+ regulatory cells. It has been shown that Helios up-regulates the expression of FoxP3 expression by binding to the FoxP3 promoter. Helios is a highly conserved transcription factor that has 97% sequence homology between human and mice.



Lysed normal whole blood sample.

### Clone: 22F6 (IgG Hamster)

The clone 22F6 reacts with human and mouse Helios.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B49311	RUO	IOTest	cGMP

## HIV-1 core antigen

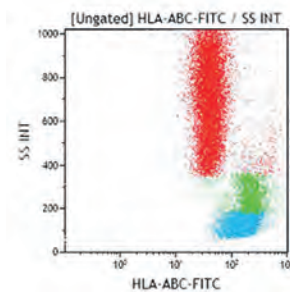
### Clone: KC57 (IgG1 Mouse)

The KC57 antibody identifies the 55, 39, 33 and 24 kDa proteins of the core antigens of the human immunodeficiency virus type 1 (HIV-1). The 55 kDa protein is the precursor protein for the core antigen. The 39 and 33 kDa proteins are intermediate products and the 24 kDa protein is the core protein.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Liquid	6604665	RUO	COULTER CLONE	cGMP
RD1	100 tests	Liquid	6604667	RUO	COULTER CLONE	cGMP

## HLA-ABC

HLA-A, -B, and -C are major histocompatibility complex (MHC)-class I antigens. Like other class I molecules (i.e. HLA-E, -F, -G), HLA-A, -B, and -C are heterodimers consisting of a 40 – 45 kDa transmembrane glycoprotein  $\alpha$ -chain, noncovalently combined to the invariant  $\beta$ 2-microglobulin. All class I molecules have conserved, monomorphic domains, but are also characterized by their extensive degree of allelic polymorphism. MHC molecules play a central role in the immune response. They are involved in the maturation of T cell repertoire, in the activation of T lymphocytes by presentation of xenogenic peptides or in the allogenic response. HLA-A, -B and -C are “classical” MHC Class I molecules and are expressed on the surface of most nucleated human cell types.



Lysed normal whole blood sample.

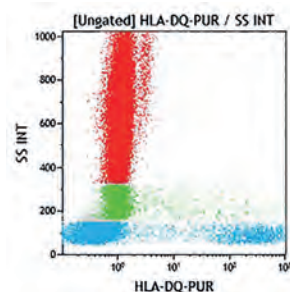
### Clone: B9.12.1 (IgG2a Mouse)

The B9.12.1 monoclonal antibody recognizes a monomorphic epitope common to HLA-A, -B and -C molecules. B9.12.1 antibody does not recognize unassociated heavy chains. B9.12.1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM1838U</b>	ASR	IOTest	cGMP
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0107</b>	RUO	-	cGMP

## HLA-DQ

The HLA (Human Leucocyte Antigen) system is the name given to the major histocompatibility complex (MHC) in man. The MHC complex is located on the short arm of the chromosome 6 and encodes three groups of molecules designated MHC class I, class II and class III. Coded by 5 loci (DM, DO, DP, DQ and DR) of the D locus, HLA class II molecules are also called HLA-DM, HLA-DO, HLA-DP, HLA-DQ and HLA-DR antigens. The HLA class II molecules like class I molecules, are composed of non-covalently associated  $\alpha/\beta$  heterodimers. On HLA class II, both heavy ( $\alpha$ ) and light ( $\beta$ ) chain with a molecular weight of 31-33 kDa and 26-29 kDa respectively span the cell membrane. The two immunoglobulin-like domains proximal to the cell membrane ( $\alpha$ 2 and  $\beta$ 2) support the two polymorphic amino-terminal domains ( $\alpha$ 1 and  $\beta$ 1) distal to the membrane which constitute a part of the “antigen presenting site”. HLA class II molecules are involved in the regulation of immune response whose expression is limited to antigen presenting cells, i.e. B lymphocytes, monocytes / macrophages, dendritic and Langerhans cells of the skin.



Lysed normal whole blood sample.

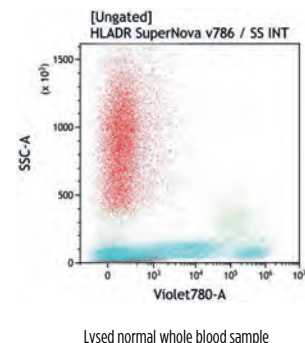
### Clone: SPVL3 (IgG2a Mouse)

The monoclonal antibody SPVL3 recognizes a monomorphic determinant of human class II HLA-DQ molecules. The SPVL3 antibody has been used in studies of inhibition of antigen-specific cytolytic T cell clones.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>UNLB</b>	0.2 mg	Freeze-dried	<b>IM0416</b>	RUO	-	cGMP

## HLA-DR

The human major histocompatibility complex (MHC), also called human leucocyte antigens (HLA), is composed of three groups of molecules designated MHC class I, class II and class III. The MHC class II genomic region, or HLA-D region, contains the genes encoding HLA-DR, -DQ and -DP antigens. The MHC class II molecules are built by the non-covalent association of  $\alpha/\beta$  heterodimers. Both heavy ( $\alpha$ ) and light ( $\beta$ ) chains span the cell membrane. They have molecular weights of 31-33 kDa and 26-29 kDa respectively. HLA-DR molecules are found on antigen-presenting cells (APC), i.e. dendritic cells, B lymphocytes, monocytes, macrophages, Langerhans cells and thymic epithelial cells. They are also expressed on activated T cells, but not on granulocytes, platelets, or red blood cells. Resting T cells or endothelial cells that do not normally express these molecules can be induced to express them. HLA-DR is also expressed on some hematopoietic progenitor cells at different stages of differentiation.



## Clone: B8.12.2 (IgG2b Mouse)

HLA-DR antibodies are specific to non polymorphic determinants of human HLA class II DR molecules which are constituted of  $\alpha$  and  $\beta$  polypeptides of 34 and 29 kDa respectively. B8.12.2 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon, Common Marmoset, Cotton-topped Tamarin, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	2 mL	Liquid	<b>IM0463U</b>	ASR	IOTest	cGMP
<b>PE</b>	2 mL	Liquid	<b>IM0464U</b>	ASR	IOTest	cGMP

## Clone: Immu-357 (IgG1 Mouse)

Immu-357 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Cotton-topped Tamarin.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C76822</b>	RUO	IOTest	cGMP	available Q2
<b>PB</b>	50 tests	Liquid	<b>B36291</b>	CE/IVD	IOTest	IVDR	
<b>PB</b>	0.5 mL	Liquid	<b>A74781</b>	ASR	IOTest	cGMP	
<b>KrO</b>	0.5 mL	Liquid	<b>B00070</b>	ASR	IOTest	cGMP	
<b>SNv786</b>	50 tests	Liquid	<b>C78087</b>	RUO	IOTest	cGMP	NEW
<b>FITC</b>	100 tests	Liquid	<b>B96758</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	2 mL	Liquid	<b>IM1638U</b>	ASR	IOTest	cGMP	
<b>PE</b>	100 tests	Liquid	<b>IM1639</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	2 mL	Liquid	<b>IM1639U</b>	ASR	IOTest	cGMP	
<b>ECD</b>	100 tests	Liquid	<b>B92438</b>	CE/IVD	IOTest	IVDR	
<b>ECD</b>	1 mL	Liquid	<b>IM3636</b>	ASR	IOTest	cGMP	
<b>PC5</b>	100 tests	Liquid	<b>A07793</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	1 mL	Liquid	<b>IM2659U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	0.5 mL	Liquid	<b>B20024</b>	ASR	IOTest	cGMP	
<b>PC7</b>	50 tests	Liquid	<b>B49180</b>	CE/IVD	IOTest	IVDR	
<b>PC7</b>	0.5 mL	Liquid	<b>A40579</b>	ASR	IOTest	cGMP	
<b>APC</b>	1 mL	Liquid	<b>IM3635</b>	ASR	IOTest	cGMP	
<b>APC-A750</b>	0.5 mL	Liquid	<b>B42021</b>	ASR	IOTest	cGMP	

## HLA-DR, DP, DQ

The recognized epitope is specific to a non-polymorphic HLA class II (DR, DP, DQ) Ia antigen constituted of  $\alpha$  and  $\beta$  polypeptides of 34 and 29 kDa respectively. This antigen is expressed on monocytes, macrophages, B lymphocytes and activated T lymphocytes.

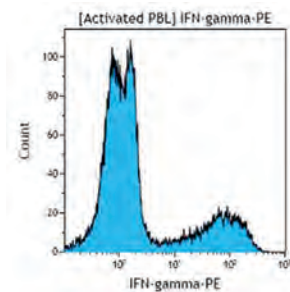
## Clone: 9-49 (IgG2a Mouse)

9-49 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>RD1</b>	0.5 mL	Liquid	<b>6604366</b>	ASR	CYTO-STAT	cGMP

## IFN- $\gamma$

Human Interferon- $\gamma$  (IFN- $\gamma$ ) is a 20-25 kDa (monomer) pleiotrophic cytokine that is produced by activated T cells and NK cells and is involved in the regulation of almost all immune and inflammatory responses. IFN- $\gamma$  is involved in the activation, growth and differentiation of T cells, B cells, macrophages, NK cells as well as other cell types. IFN- $\gamma$  enhances MHC expression on antigen-presenting cells including epithelial, endothelial and connective tissue cell and monocytes cell lines. It also has weak antiviral activity and acts as a macrophage-activating factor (MAF) for tumor cytotoxicity leading to anti-tumor effects.



Activated peripheral blood lymphocytes (PBL).

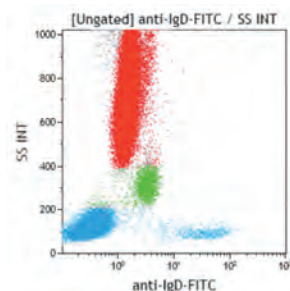
### Clone: 45.15 (IgG1 Mouse)

The FITC- and PE-conjugated forms of the 45.15 antibody are optimized for flow cytometric detection of intracellular IFN- $\gamma$  in stimulated peripheral blood mononuclear cells (PBMC) after permeabilization with IntraPrep permeabilization reagent. 45.15 cross reacts with: Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B46034	ASR	IOTest	cGMP
FITC	2 mL	Liquid	IM2716U	ASR	IOTest	cGMP
PE	2 mL	Liquid	IM2717U	ASR	IOTest	cGMP

## IgD

IgD, a member of the immunoglobulin (Ig) family, is expressed in naïve B cells. It exists in a transmembrane and a soluble form. IgD is, together with IgM, the first antibody isotypes expressed during B cell ontogeny. Bone marrow B cell precursors acquire surface IgM after assembling heavy (H) and light (L) chain variable region exons from prototypic variable (V), diversity (D) and joining (J) gene segments through an antigen-independent process. After leaving the bone marrow to colonize secondary lymphoid organs, B cells acquire surface IgD of the same specificity as surface IgM through alternative splicing of a pre-messenger RNA comprising V(D)J and both heavy chain constant  $\mu$  (C $\mu$ ) and C $\delta$  exons.



Pre-washed lysed normal whole blood sample.

### Clone: IA6-2 (IgG2a Mouse)

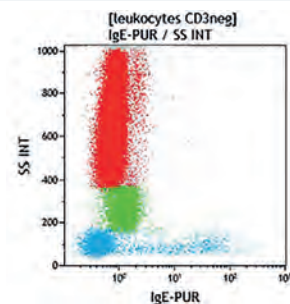
The IA6-2 monoclonal antibody binds specifically to the heavy chain of human IgD.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	50 tests	Liquid	B30652	RUO	IOTest	cGMP
PE	50 tests	Liquid	B30653	RUO	IOTest	cGMP
APC	50 tests	Liquid	B30651	RUO	IOTest	cGMP



## IgE (Dε2)

The anti-IgE mAb binds to circulating IgE as well as to IgE antibodies bound to the low affinity receptor FcεRII (expressed mainly on eosinophils, B lymphocytes), or to the high affinity receptor FcεRI (expressed on mast cells, basophils, monocytes and monocytes-derived cells). The anti-IgE antibody induces the histamine release from basophils. However, it is known in the literature information that basophils from 10% to 20% of donors completely fail to release histamine in response to anti-IgE, designated anti-IgE "non releasers".



Lysed normal whole blood sample.

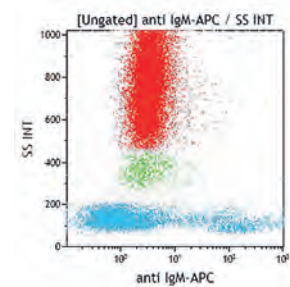
### Clone: E124.2.8 (IgG1 Mouse)

The E124.2.8 monoclonal antibody binds specifically to the Dε2 constant domain of human Immunoglobulin E (IgE) (Dε2 is the heat labile region of IgE).

Form	Size	Format	Part#	Status	Line	Quality Standard
UNLB	0.2 mg	Freeze-dried	A40174	ASR	-	cGMP

## IgM

The anti-IgM antibody binds to circulating IgM as well as to IgM antibodies bound to the FcμR. The FcμR is a transmembrane single sialoglycoprotein of 60 kD with O-linked oligosaccharides. It contains an extracellular Ig-like domain homologous to two other IgM-binding receptors (polymeric Ig receptor and Fcα/μR) but exhibits an exclusive Fcμ-binding specificity. Unlike other FcRs, the major cell types expressing FcμR are adaptive immune cells, including B and T lymphocytes. The FcμR can be expressed as a cell surface activation antigen throughout the pre-B and B cell stages in differentiation. Receptor expression is not directly linked with IgM production, as both μ- pre-B cells and isotype-switched B cells may express the FcμR. The FcμR is thus the third member of a family of Fc receptors expressed on B-lineage cells, and its preferential expression on activated B cells suggests a potential role in the response to antigens.



Pre-washed lysed normal whole blood sample.

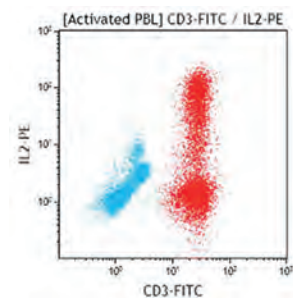
### Clone: SA-DA4 (IgG1 Mouse)

The SA-DA4 monoclonal antibody binds specifically to mu heavy chain of Human Immunoglobulin (IgM).

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	50 tests	Liquid	B30656	RUO	IOTest	cGMP
FITC	50 tests	Liquid	B30655	RUO	IOTest	cGMP
PE	50 tests	Liquid	B30657	RUO	IOTest	cGMP
APC	50 tests	Liquid	B30654	RUO	IOTest	cGMP

## IL-2

Interleukin-2 (IL-2) is a 15-17 kDa cytokine produced and secreted by T cells. The induction of IL-2 secretion is the first step in T cell activation. IL-2 is the major autocrine growth factor for activated T cells and is obligatory for the generation of cytotoxic T cells. IL-2 also promotes the proliferation and the differentiation of NK precursors, B cells and monocytes. Activated CD4<sup>+</sup> T cells of the Th1 phenotype produce predominantly IL-2 and Interferon- $\gamma$ , whereas CD4<sup>+</sup> T cells of the Th2 phenotype produce IL-4 and IL-10.



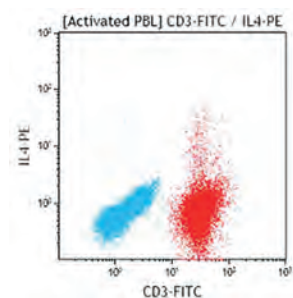
Activated peripheral blood lymphocytes (PBL).

### Clone: IL2.39.1 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B90436</b>	ASR	IOTest	cGMP

## IL-4

Interleukin-4 (IL-4) is a monomeric 20 kDa predominantly produced by activated T lymphocytes of the Th2 phenotype, by mast cells and by some antigen-presenting cells. Together with IL-2, IL-4 is an autocrine growth factor for activated T cells and for cytotoxic T cell precursors. IL-4 is a major factor involved in the activation of resting B lymphocytes. Together with IL-13, IL-4 induces isotype switch towards IgE and IgG1 isotypes. Activated CD4<sup>+</sup> T cells of the Th1 phenotype produce predominantly IL-2 and Interferon  $\gamma$ , whereas CD4<sup>+</sup> T cells of the Th2 phenotype produce IL-4, IL-5, IL6 and IL-10.



Activated peripheral blood lymphocytes (PBL).

### Clone: 4D9 (IgG1 Mouse)

The 4D9-PE-conjugated antibody is optimized for flow cytometric detection of intracellular IL-4 in stimulated peripheral mononuclear cells (PBMC) after permeabilizing with formaldehyde / saponin-based IntraPrep Permeabilization Reagent.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	2 mL	Liquid	<b>IM2719U</b>	ASR	IOTest	cGMP

### Clone: MP4-25D2 (IgG1 Rat)

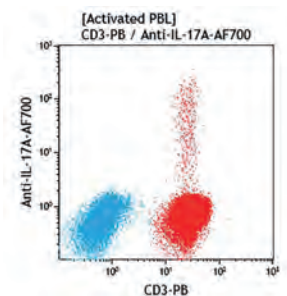
MP4-25D2 cross reacts with: Porcine, Equine.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	2 mL	Liquid	<b>C76793</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B90441</b>	ASR	IOTest	cGMP

available Q2

## IL-17A

IL17-A is a member of the IL-17 family which is constituted by 6 members (IL-17A to IL-17F). IL-17A is commonly referred to as IL-17 and is produced as a homodimer of about 30 kDa. IL-17A is mainly secreted by a subset of CD4+ T cells, namely the Th17 cells, which are helper cells that are distinct from Th1 and Th2 cells. In addition to Th17 cells, other immune cells such as  $\gamma\delta$  T cells, CD8+ T cells, NK cells and Innate Lymphoid cells (ILCs) can be activated to secrete IL-17. IL-17 is a pro-inflammatory molecule that induces the production of chemokines and other cytokines by various cell types, i.e. fibroblasts, epithelial cells, endothelial cells, macrophages and neutrophils, which helps the recruitment of innate immune cells at the site of activation.



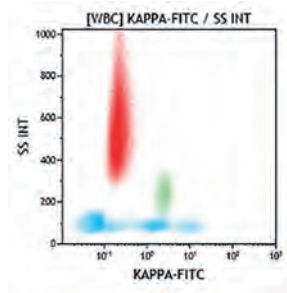
Peripheral blood lymphocytes (PBL) activated with PMA/Ionomycin/Brefeldin A, permeabilized and fixed with Perfix-nc reagent.

Clone: BL168 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PB</b>	50 tests	Liquid	<b>B76266</b>	RUO	IOTest	cGMP
<b>AF700</b>	50 tests	Liquid	<b>B90428</b>	RUO	IOTest	cGMP

## $\kappa$ Chain

Kappa ( $\kappa$ ) chain is a 25Kd polypeptide that results from papain cleavage of the IgG molecule, encoded by the human immunoglobulin kappa locus (IGK) on chromosome 2. The subunit structure of IgG comprises 2 light chains and 2 heavy chains. Each light chain is composed of two tandem immunoglobulin domains: a) one variable domain (VL) and b) one constant (CL) domain. While the VL show considerable sequence diversity the CL shows internal homology with repeating units. Anti-Kappa antibodies recognize the Kappa light chain of immunoglobulins expressed at the surface of a cellular subpopulation corresponding to approximately 2/3 of mature B lymphocytes in peripheral blood. This light chain is also found on the surface of a sub-population of immature bone marrow B lymphocytes.



Lysed normal whole blood sample.

Clone: Polyclonal (F(ab')<sub>2</sub>, Goat)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>C73900</b>	CE/IVD	IOTest	IVDR
<b>FITC</b>	2 mL	Liquid	<b>C15623</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>B90420</b>	ASR	IOTest	cGMP

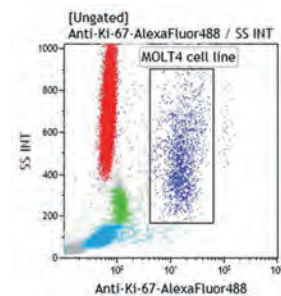
available Q2

Clone: Polyclonal (F(ab')<sub>2</sub>, Rabbit)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	100 tests	Liquid	<b>B49178</b>	CE/IVD	IOTest	98/79/EC
<b>FITC</b>	2 mL	Liquid	<b>A64828</b>	ASR	IOTest	cGMP

## Ki-67

Ki-67 nuclear antigen is associated with cell proliferation and is found throughout the cell cycle (G1, S, G2, M phases). It is never expressed by resting (G0) cells. The Ki-67 antigen is a human nuclear protein defined by its reactivity with monoclonal antibody from the Ki-67 clone. Two isoforms of 345 and 395 kDa have been identified by cDNA sequence coding. Deduced amino acid sequence analysis of the Ki-67 antigen confirmed that the cDNA encodes for a nuclear and short-lived protein without any significant homology to known sequences. The Ki-67 antigen is expressed at active phases of the cell cycle (G1, S, G2 and M phases), but it is absent in resting cells (G0 phase). The level of Ki-67 antigen expression varies during cell cycle and it has been correlated to several cell pathways: The Ki-67 decrease pathway is characterized by a declining Ki-67 staining and leads eventually to the exit from the active cell cycle (G0). If cells on this pathway get stimulated by growth factors, they can enter the Ki-67 increase pathway that brings the cells back into S phase. Cells following the Ki-67 stable pathway exhibit a constant intensity of Ki-67 staining during the G1 phase. This pathway is thought to correspond to optimal local growth conditions. The cellular localization of the Ki-67 protein is cell cycle phase dependent. During interphase, the antigen can be exclusively detected within the nucleus, whereas in M phase most of the protein is relocated to the surface of the chromosomes. The antigen is rapidly degraded as the cell enters the non proliferative state.



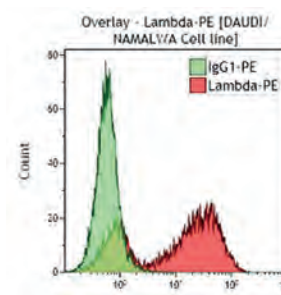
Lysed normal whole blood sample spiked with MOLT4 cell line.

### Clone: Ki-67 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>AF488</b>	0.5 mL	Liquid	<b>B68180</b>	ASR	IOTest	cGMP

## λ Chain

The Lambda light chain of immunoglobulins is expressed at the surface of a cellular sub-population corresponding to approximately 1/3 of mature B lymphocytes in peripheral blood. This light chain is also found on the surface of a sub-population of immature bone marrow B lymphocytes.



DAUDI / NAMALWA Cell line.

### Clone: Polyclonal (F(ab')<sub>2</sub> Goat)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>C73901</b>	CE/IVD	IOTest	IVDR
<b>PE</b>	2 mL	Liquid	<b>C15189</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>B90416</b>	ASR	IOTest	cGMP

available Q2

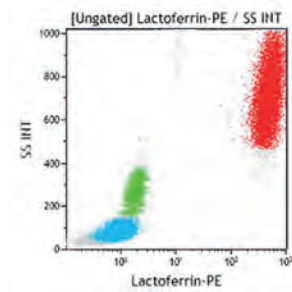
### Clone: Polyclonal (F(ab')<sub>2</sub> Rabbit)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	100 tests	Liquid	<b>B49174</b>	CE/IVD	IOTest	98/79/EC
<b>PE</b>	2 mL	Liquid	<b>A64827</b>	ASR	IOTest	cGMP



## Lactoferrin

Lactoferrin is a 76 kDa single chain polypeptide with iron-binding property. This protein shows structural similarity to the plasma iron-transport protein transferrin. Lactoferrin is involved in various immuno-regulatory functions associated with anti-infective and inflammatory responses such as antibody synthesis, cytokine production, NK cell cytotoxicity, complement activation and lymphocyte proliferation. Lactoferrin synthesis occurs at the myelocytic stage during polymorphonuclear neutrophil (PMN) ontogeny and constitutes a component of secondary (or specific) granules. Unlike the myeloperoxidase, lactoferrin is absent from primary (or azurophilic) granules and appears later during maturation of the granulocytic lineage. Thus, in peripheral blood, intracellular lactoferrin expression is restricted to neutrophils.



Lysed normal whole blood sample.

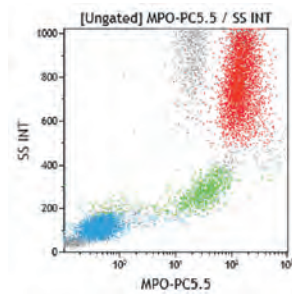
### Clone: CLB13.17 (IgG1 Mouse)

The PE-conjugated CLB-13.17 antibody is optimized for flow cytometric detection of intracellular lactoferrin by flow cytometry after permeabilization with IntraPrep permeabilization reagent.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2742	ASR	IOTest	cGMP

## Myeloperoxidase

Myeloperoxidase (MPO) is a heterodimeric glycoprotein of 150 kDa with an  $\alpha 2/\beta 2$  structure. The two subunits ( $\alpha$  and  $\beta$ ) have a molecular weight of 55 and 15 kDa, respectively. MPO synthesis occurs in bone marrow at an early stage of myeloid lineage differentiation. MPO is specifically expressed during promyelocytic formation, the stage at which azurophilic granules (or primary granules) are formed. MPO is still found in mature myeloid cells, becoming the major constituent of azurophilic granules of neutrophils. MPO is stored in polymorphonuclear neutrophilic granules and in macrophages, but it is not expressed in lymphocytes, platelets and erythrocytes. MPO catalyzes the formation of hypochlorous acid (HOCl) in the presence of active oxygen ( $H_2O_2$ ). Intracellular MPO may also help to protect DNA against damage resulting from oxygen radicals produced during cell maturation and function.



Permeabilized normal whole blood sample.

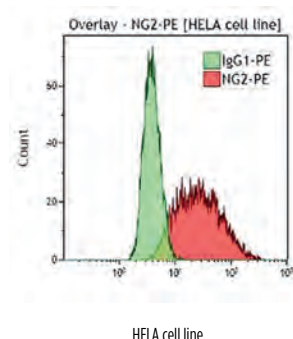
### Clone: CLB-MPO-1 (IgG2a Mouse)

The CLB-MPO-1 antibody recognizes MPO and its enzymatically inactive form. This antibody can be used to detect intracytoplasmic myeloperoxidase in flow cytometry after permeabilization with IntraPrep or PerFix-nc permeabilization reagent.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	100 tests	Liquid	IM1874	CE/IVD	IOTest	IVDR
FITC	2 mL	Liquid	IM1874U	ASR	IOTest	cGMP
PE	100 tests	Liquid	B36288	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM3455U	ASR	IOTest	cGMP
PC5.5	0.5 mL	Liquid	B23132	ASR	IOTest	cGMP

## NG2 (7.1)

Human melanoma-associated chondroitin sulfate proteoglycan (MCSP), known as the homolog rat NG2 antigen, is a 250 kDa glycoprotein that is thought to play important roles in angiogenesis-dependent processes like wound healing and tumor growth. The core protein contains an open frame of 2322 amino acids encompassing a large extracellular domain, a hydrophobic transmembrane region and a relatively short cytoplasmic tail. This antigen is not expressed on normal hematopoietic cells but can be expressed on myeloid and lymphoid cell subsets with chromosomal modifications. It is also expressed on human glial cells. This antigen regulates signaling events that are important for both cell proliferation and cell migration through at least two distinct mechanisms: the focal adhesion kinase (FAK) and the extracellular signal-regulated kinases (ERK) 1/2.



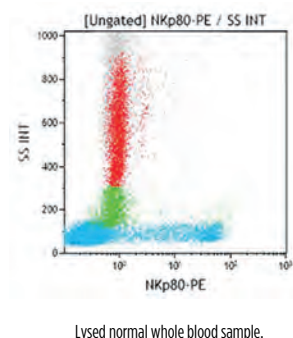
### Clone: 7.1 (IgG1 Mouse)

The 7.1 monoclonal antibody recognizes the human melanoma associated chondroitin sulfate proteoglycan molecule.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	B92429	CE/IVD	IOTest	IVDR
PE	2 mL	Liquid	IM3454U	ASR	IOTest	cGMP

## NKp80

The NKp80, also known as killer cell lectin-like subfamily F, member 1 (KLRF1) is a type II transmembrane glycoprotein of 80 kDa and 40 kDa under reducing conditions. It is expressed on NK cells and a subset of T lymphocytes whereas it is not expressed on B lymphocytes, monocytes and granulocytes. The NKp80 antigen is a 231 amino acid protein which belongs to the C-lectin family and is encoded by a gene located on chromosome 12. It is characterized, in its 169 amino acid extracellular domain by 4 glycosylation sites and by two tyrosine residues in its 39 amino acid cytoplasmic domain. The transmembrane domain contains 23 amino acids. The NKp80 molecule binds to the genetically linked receptor AICL which is up-regulated by Toll-like receptor stimulation. NKp80-AICL interaction regulates the immune responses at sites of inflammation by stimulating the release of proinflammatory cytokines.



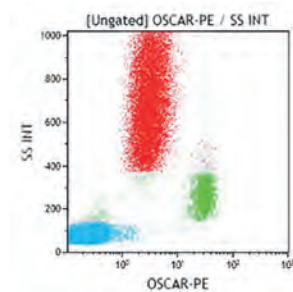
### Clone: MA152 (IgG1 Mouse)

The monoclonal antibody MA152 recognizes NK cells, a subset of T lymphocytes. It does not react with NK92, NK3.3 and YT cell lines.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	A52635	ASR	IOTest	cGMP

## OSCAR

OSCAR, an abbreviation of osteoclast-associated receptor, is a new member of the leukocyte receptor complex. Human OSCAR is a cell-surface, monomeric N-glycosylated protein of approximately 45 kDa. The amino acid sequence shows homology with that of members of the KIR family. The protein exhibits two C2-type immunoglobulin extracellular domains, a transmembrane section that contains a positively charged arginine residue, and a short intracytoplasmic tail with no recognizable signaling motif. As suggested by the presence of the charged residue, OSCAR associates with the ITAM-adaptor FcR $\gamma$  and not with other signaling molecules. The gene coding for OSCAR has been mapped to chromosome 19q13. Unlike mouse OSCAR, human OSCAR is widely expressed in cells of the myeloid lineage, and in particular, at all stages of dendritic cell (DC) differentiation and maturation. T cells, B cells, and NK cells do not express OSCAR. OSCAR is involved in antigen presentation and activation of human DCs. It allows processing and presentation of exogenous antigens.



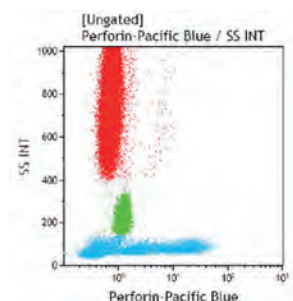
Lysed normal whole blood sample.

Clone: 11.1CN5 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	100 tests	Liquid	A24987	RUO	IOTest	cGMP

## Perforin

Perforin is a 70 kD N-glycosylated modified cytolytic protein. Following synthesis and post-translational modifications, perforin monomers are packaged into lysosome-like cytoplasmic granules of cytotoxic T lymphocytes (CTLs) and natural killer (NK) cells. Both types of cells kill their cellular targets by mechanisms that require direct contact between the effector and target cells. Cytoplasmic granule toxins, predominantly perforin, and a family of structurally related serine proteases (granzymes) with various substrate specificities are secreted by exocytosis and together induce apoptosis of the target cell. Perforin is one of the major effector molecules used by cytotoxic T cells and NK cells to mediate targeted cell lysis.



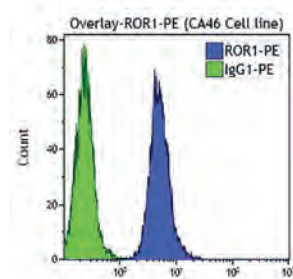
Lysed normal whole blood sample.

Clone: dG9 (IgG2b Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B46030	ASR	IOTest	cGMP

## ROR1

ROR1, the Receptor tyrosine kinase-like orphan receptor 1, is a member of the ROR receptor family consisting of two closely related type I transmembrane proteins ROR1 and ROR2. RORs are classified as pseudokinases lacking detectable catalytic activity. They are highly homologous in humans and mice. ROR1 and ROR2 are composed of a distinguished extracellular region with one immunoglobulin domain, one frizzled domain, and one kringle domain, followed by a transmembrane region and an intracellular region that contains a tyrosine kinase domain. ROR1 stands out for its selective and high expression in numerous blood and solid malignancies compared with a minimal expression in healthy adult tissues. Current understanding attributes a survival role for ROR1 in cancer cells; however, its oncogenic function is cancer-type-specific and involves various signaling pathways.



CA46 Cell Line.

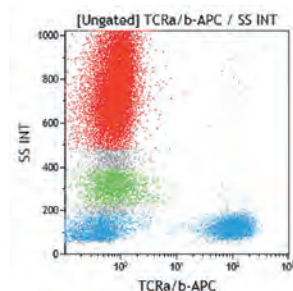
### Clone: 2A2 (IgG1 Mouse)

Epitope mapping studies showed that the 2A2 clone recognized N-terminal epitopes in the extracellular region of ROR1.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	B68136	ASR	IOTest	cGMP

## TCR PAN $\alpha/\beta$

Human T cells recognize foreign antigens, in the context of host HLA molecules through the T-cell receptor for antigen (TcR). The TcRs are molecular complexes which comprise two units: a recognition unit, composed of either  $\alpha$ - $\beta$  or  $\gamma$ - $\delta$  heterodimer, which are present on the cell surface in a mutually exclusive manner, and, a transducing unit, the CD3 complex, common to  $\alpha$ - $\beta$  and  $\gamma$ - $\delta$  heterodimers, which triggers the T cell when the recognition unit is occupied by the antigen. The recognition units recognize any possible foreign antigen and the diversity necessary for this function of recognition is generated by somatic recombination the TcR genes. There are four TcR gene loci ( $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$ ). Each of them is composed of several V (for variable) segments, coding for about 90 amino acids, very short D (for diversity) segments ( $\alpha$  and  $\delta$  loci only), and short J (for joining) segments (about 15 amino acids), and one or two C (for constant) segments.



Lysed normal whole blood sample.

### Clone: IP26A (IgG1 Mouse)

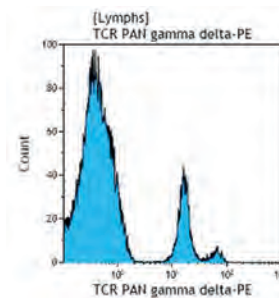
The IP26A antibody recognizes a monomorphic determinant of the human  $\alpha/\beta$  chain of the TcR complex.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	B49177	CE/IVD	IOTest	IVDR
PE	1 mL	Liquid	A39499	ASR	IOTest	cGMP
PC5	0.5 mL	Liquid	A39500	ASR	IOTest	cGMP
APC	0.5 mL	Liquid	B13981	ASR	IOTest	cGMP



## TCR PAN $\gamma/\delta$

The TCR is a molecular complex which comprises two units: a recognition unit, composed of either alpha-beta or gamma-delta heterodimer, which are present on the cell surface in a mutually exclusive manner, and, a transducing unit, the CD3 complex, common to alpha-beta and gamma-delta heterodimers, which triggers the T cell when the recognition unit is occupied by the antigen. The recognition unit recognizes foreign antigens and the diversity necessary for this function of recognition is generated by somatic recombination the TCR genes. There are four TCR gene loci (alpha, beta, gamma and delta). Each of them is composed of several V (variable) segments, coding for about 90 amino acids, very short D (diversity) segments (alpha and delta loci only), and short J (joining) segments (about 15 amino acids), and one or two C (constant) segments. Most of T cells express the alpha/beta TCR (T cell receptor) protein and a small population of T cells expresses the gamma/delta TCR, which usually has a double negative (CD4/CD8) phenotype. Gamma/delta T-cells are normally the first line of defence at epidermal and epithelial surfaces and they represent 10-12% of lymphocytes in the spleen.



Lysed normal whole blood sample.

### Clone: IMM510 (IgG1 Mouse)

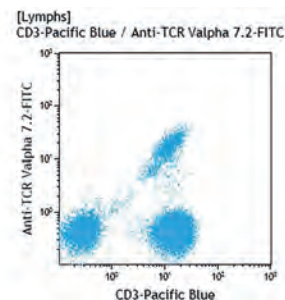
The IMM510 monoclonal antibody recognizes all  $\gamma/\delta$  T cells, regardless of their variable chains. It stains 1.6% to 8.9% of peripheral CD3<sup>+</sup> cells from healthy donors. In Western blot, it recognizes the  $\delta$  chain in reducing conditions. It immunoprecipitates the three isoforms of the  $\gamma/\delta$  T cell receptor. This antibody is suitable for immunohistochemistry on frozen sections. It has been used to study the distribution of  $\gamma/\delta$  T cells and their functions.

Form	Size	Format	Part#	Status	Line	Quality Standard	
<b>SNv428</b>	50 tests	Liquid	<b>C76829</b>	RUO	IOTest	cGMP	available Q2
<b>FITC</b>	50 tests	Liquid	<b>B49175</b>	CE/IVD	IOTest	IVDR	
<b>FITC</b>	1 mL	Liquid	<b>IM1571U</b>	ASR	IOTest	cGMP	
<b>PE</b>	50 tests	Liquid	<b>B49176</b>	CE/IVD	IOTest	IVDR	
<b>PE</b>	1 mL	Liquid	<b>IM1418U</b>	ASR	IOTest	cGMP	
<b>PC5</b>	50 tests	Liquid	<b>IM2662</b>	CE/IVD	IOTest	IVDR	
<b>PC5</b>	0.5 mL	Liquid	<b>IM2662U</b>	ASR	IOTest	cGMP	
<b>PC5.5</b>	0.5 mL	Liquid	<b>A99021</b>	ASR	IOTest	cGMP	
<b>PC7</b>	0.5 mL	Liquid	<b>B10247</b>	ASR	IOTest	cGMP	
<b>UNLB</b>	0.1 mg	Freeze-dried	<b>IM1349</b>	RUO	-	cGMP	

## TCR V $\alpha$ 7.2

Also called TCRAV7S2 according to the nomenclature from Arden et al.

The iValpha7.2 segment in humans is an evolutionarily conserved invariant TCRalpha chain, expressed in mucosal associated invariant T (MAIT) cells, also called mNKT. MAIT cells are abundant in human blood (1-8% of T cells vs. 0.01-1% for NKT cells), the intestinal mucosa and mesenteric lymph nodes (MLN). MAIT cells are evolutionarily conserved innate-like T cells with anti-microbial properties. They are apparently also involved in non-infectious inflammatory disorders and in autoimmune inflammatory lesions. MAIT cells were found to specifically accumulate in the lamina propria (LP) of the intestine. This suggests that these cells may, in fact, be directed to microbial antigens presented by MR1 molecules, having a role of natural killer T cells (mNKT cells) in intestinal immunology. mNKT cells are a subset of non-conventional T cells recognizing endogenous and / or exogenous glycolipid antigens when presented by the major histocompatibility complex (MHC) class I-like antigen-presenting molecules CD1d and MR1. Upon T-cell receptor (TCR) engagement, mNKT cells can rapidly produce various cytokines that have important roles in mucosal immunity.



Lysed normal whole blood sample. Gating on lymphocytes. Dual staining with CD3-PB.

### Clone: 3C10 (IgG1 Mouse)

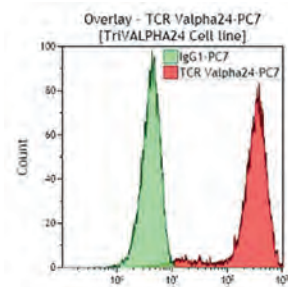
The monoclonal antibody 3C10 recognizes the Va7.2-Ja33 TCR $\alpha$  chain.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	50 tests	Liquid	<b>B90400</b>	RUO	IOTest	cGMP

## TCR V $\alpha$ 24

Also called TCRAV24S1 (according to the nomenclature from Arden et al.)

V $\alpha$ 24 is the only described member of the subfamily of the T cell receptor. It has been shown to be expanded in a clonal fashion in the CD3+ CD8- CD4- cell population in PBL of several donors. It is expressed by 0.4% to 1% of peripheral CD3+ cells from normal blood. An invariant V $\alpha$ 24/V $\beta$ 11 T cell receptor is expressed in all individuals by clonally expanded CD4- CD8- T cells, reactive to bacterial antigens. This unique lymphocyte population restricted by the CD1d molecule recognition has been identified as the natural killer T (NKT) cells. The IGRa02 sequence is also referred to as TRAV10 (based on the IMGT gene nomenclature).



Tri VAlpha24 Cell line.

### Clone: C15 (IgG1 Mouse)

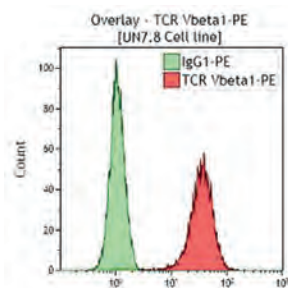
The C15 antibody recognizes the IGRa02 sequence, the only described member of this family.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1589</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2283</b>	ASR	IOTest	cGMP
<b>PC7</b>	0.5 mL	Liquid	<b>A66907</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 1

Also called TCRBV1S1 and S2

V $\beta$ 1 is the human variable  $\beta$ 1 chain of the T cell receptor. It is expressed by approximately 6% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV9 (based on the IMGT gene nomenclature).



UN7.8 Cell line.

### Clone: BL37.2 (IgG1 Rat)

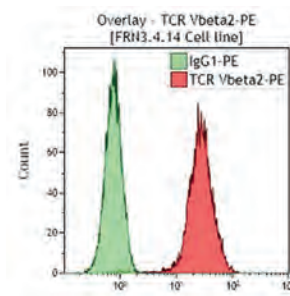
The BL37.2 antibody recognizes both V $\beta$ 1.1 and V $\beta$ 1.2 allele products (HBVT73 cDNA and 46W/Q cDNA, respectively). None of the other V $\beta$  specific antibodies from the TCR Workshop (San Francisco, CA, 1995) gave significant staining on the sorted cell lines. BL37.2 cross reacts with: Indian Rhesus.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM2406</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2355</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 2

Also called TCRBV2S1

V $\beta$ 2 is the human variable  $\beta$ 2 chain of the T cell receptor. It is expressed by 10% of peripheral CD3+ cells in normal blood. V $\beta$ 2 is the target of Toxic Shock Syndrome Toxin 1 (TSST1). This sequence is also referred to as TRBV20-1 (based on the IMGT gene nomenclature).



FRN3.4.14. Cell line.

### Clone: MPB2D5 (IgG1 Mouse)

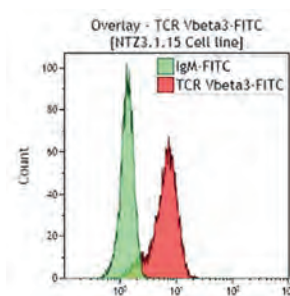
The MPB2D5 antibody recognizes all the members (Molt4 identical to PL2.13, PH34 and TCRVBV2S13 sequences) of the V $\beta$ 2 subfamily that are in fact alleles.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM2407</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2213</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 3

Also called TCRBV3S1

V $\beta$ 3 is the human variable  $\beta$ 3 chain of the T cell receptor. V $\beta$ 3 is the target of Staphylococcal Enterotoxin B (SEB) superantigen. This sequence is also referred to as TRBV28 (based on the IMGT gene nomenclature).



NTZ3.1.15 Cell line.

### Clone: CH92 (IgM Mouse)

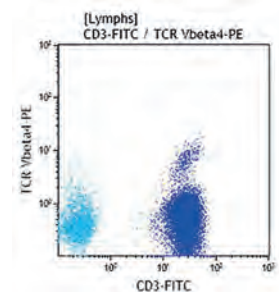
The CH92 antibody recognizes the unique member of the V $\beta$ 3 subfamily (PL4.4 identical to HBVT22 sequences). CH92 antibody recognizes the major subset of V $\beta$ 3 cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM2372</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 4

Also called TCRBV4

V $\beta$ 4 is the human variable  $\beta$ 4 chain of the T cell receptor. It is expressed by 0.8% to 3.3% (mean 1.9%) of peripheral CD3-positive lymphocytes in normal blood. This sequence is also referred to as TRBV29-1 (based on the IMGT gene nomenclature).



Lysed normal whole blood sample. Gating on lymphocytes. Dual staining with CD3-FITC.

### Clone: WJF24 (IgM Rat)

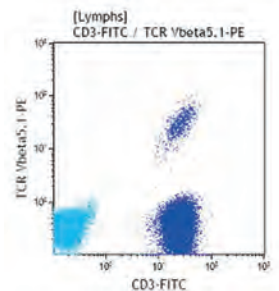
The WJF24 antibody recognizes the V $\beta$  allele product.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B07084</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM3602</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 5.1

Also called TCRBV5S1

V $\beta$ 5 is a multimerized subfamily of the T cell receptor. V $\beta$ 5.1 is expressed by 4.2% to 7.2% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV5-1 (based on the IMGT gene nomenclature).



Lysed normal whole blood sample. Gating on lymphocytes. Dual staining with CD3-FITC.

### Clone: IMMU 157 (IgG2a Mouse)

Immu157 recognizes the V $\beta$ 5.1 (HBP51 sequence) member of this subfamily. V $\beta$ 5.2 and V $\beta$ 5.3 (PL25 and 12A1 sequences) are not recognized. Recognition of other members of the V $\beta$ 5 subfamily has not been found, but cannot be formally excluded.

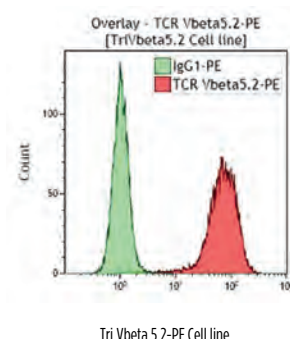
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1552</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2285</b>	ASR	IOTest	cGMP



## TCR Vβ5.2

Also called TCRBV5S2

Vβ5 is a multimered subfamily of the T cell receptor. Vβ5.2 is expressed by 0.5% to 1.5% (mean 0.8%) of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV5-6 (based on the IMGT gene nomenclature).



### Clone: 36213 (IgG1 Mouse)

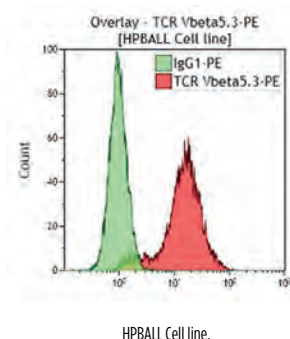
The 36213 antibody recognizes the PL25 sequence. Vβ5.1 (HBP51 sequence) and Vβ5.3 (IGRb08 sequence) are not recognized. Recognition of other members of the Vβ5 subfamily has not been found, but cannot be formally excluded.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1482</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2286</b>	ASR	IOTest	cGMP

## TCR Vβ5.3

Also called TCRBV5S3

Vβ5 is a multimered subfamily of the T cell receptor. Vβ5.3 is expressed by 1% to 1.8% (mean 1.4%) of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV5-5 (based on the IMGT gene nomenclature).



### Clone: 3D11 (IgG1 Mouse)

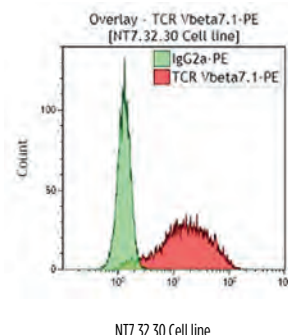
The 3D11 antibody recognizes the IGRb08 sequence. Vβ5.1 and Vβ5.2 (HPB51 and PL25 sequences) are not recognized. Reactivity on other members of the Vβ5 subfamily has not been found, but cannot be formally excluded.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>IM2002</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 7.1

Also called TCRBV7S1

V $\beta$ 7 is a multimerized subfamily of the T cell receptor. V $\beta$ 7.1 is expressed by 1.5% to 2.4% of CD3+ cells in normal blood. This sequence is also referred to as TRBV4-1 (based on the IMGT gene nomenclature).



### Clone: ZOE (IgG2a Mouse)

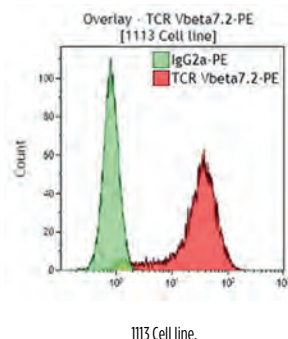
The ZOE antibody recognizes V $\beta$ 7.1 (PL4.9 sequence). It does not react with V $\beta$ 7.2, but the reactivity on other V $\beta$ 7 members like V $\beta$ 7.3 (HT267.2 sequence) has not been found, but cannot be formally excluded.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM2408</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2287</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 7.2

Also called TCRBV7S2

V $\beta$ 7 is a multimerized subfamily of the T cell receptor. V $\beta$ 7.2 is expressed by 0% (V $\beta$ 7.2 del./V $\beta$ 7.2 del. haplotypes) to 5.5% (mean 1.5%) of peripheral CD3-positive lymphocytes in normal blood.



### Clone: ZIZOU4 (IgG2a Mouse)

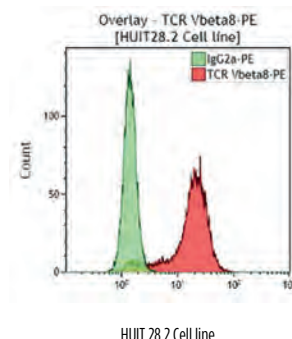
The ZIZOU4 antibody recognizes the human TCR V $\beta$ 7.2 allele product. A genetically determined insertion/deletion-related polymorphism of the TCRB locus, including the functional V $\beta$ 7.2 variable gene segment, has been described. Thus, the expression of the V $\beta$ 7.2 allele product may not be expressed in some individuals (V $\beta$ 7.2 deleted/V $\beta$ 7.2 deleted haplotypes).

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>B06666</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM3604</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 8

Also called TCRBV8S1 and S2

V $\beta$ 8 is the human variable  $\beta$ 8 chain of the T cell receptor. It is expressed by 2.6% to 5.1% of peripheral CD3<sup>+</sup> cells in normal blood. V $\beta$ 8 is the target of Staphylococcal Enterotoxin E (SEE). This sequence is also referred to as TRBV12-3, TRBV12-4 (based on the IMGT gene nomenclature).



### Clone: 56C5.2 (IgG2a Mouse)

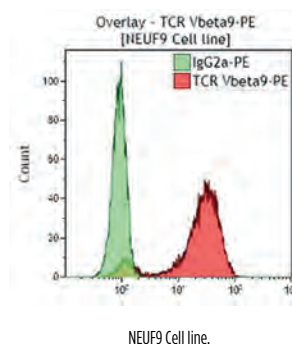
The 56C5.2 antibody recognizes V $\beta$ 8.1 and V $\beta$ 8.2 (YT35 and PL3.3 sequences). Other V $\beta$ 8 sequences are believed to be pseudogenes.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1233</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2289</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 9

Also called TCRBV9S1

V $\beta$ 9 is the human variable  $\beta$ 9 chain of the T cell receptor. There is only one functional member of this T cell receptor subfamily (IGRb20 sequence, identical to sequence PL2.6). It is expressed by 1.6% to 3.2% of peripheral CD3<sup>+</sup> cells in normal blood. This sequence is also referred to as TRBV3-1 (based on the IMGT gene nomenclature).



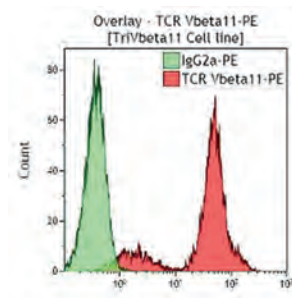
### Clone: FIN9 (IgG2a Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>IM2003</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 11

Also called TCRBV11S1

V $\beta$ 11 is the human variable  $\beta$ 11 chain of the T cell receptor. Two V $\beta$ 11 sequences are described, PL3.12 and PH15. These sequences differ only in their leader sequence and therefore lead to the same mature protein. An invariant V $\alpha$ 24/V $\beta$ 11 T cell receptor is expressed in all individuals by clonal expanded CD4<sup>+</sup> CD8<sup>+</sup> T cells, reactive to bacterial antigens. This unique lymphocyte population restricted by the CD1d molecule recognition has been identified as the natural killer T (NKT) cells. V $\beta$ 11 is expressed by 0.4% to 0.9% of peripheral CD3<sup>+</sup> cells in normal blood. This sequence is also referred to as TRBV25-1 (based on the IMGT gene nomenclature).



Tri Vbeta 11 Cell line.

### Clone: C21 (IgG2a Mouse)

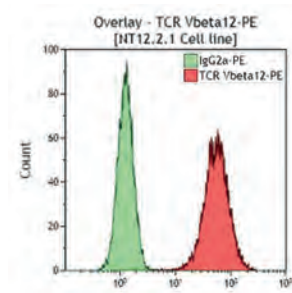
The C21 recognizes the gene product of PL3.12 and PH15 sequences. The specificity of this antibody has been confirmed at the First Human TcR Monoclonal Antibody Workshop in San Francisco in 1995.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1586</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2290</b>	ASR	IOTest	cGMP
<b>APC</b>	0.5 mL	Liquid	<b>A66905</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 12

Also called TCRBV12S1

V $\beta$ 12 is a family of the T cell receptor. It is expressed by 1.1% to 1.9% of peripheral CD3<sup>+</sup> cells in normal blood. This sequence is also referred to as TRBV10-3 (based on the IMGT gene nomenclature).



NT12.2.1 Cell line.

### Clone: VER2.32.1 (IgG2a Mouse)

The VER2.32.1 monoclonal antibody recognizes HBP54 identical to PH27 sequence often referred to as V $\beta$ 12.2. The reactivity of the other members of this family (PL4.2 sequence) and other recently described V $\beta$ 12 genes (HT96 sequence) has not been found but cannot be formally excluded.

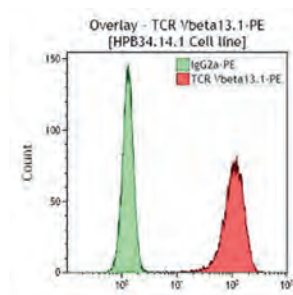
Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1587</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2291</b>	ASR	IOTest	cGMP



## TCR Vβ13.1

Also called TCRBV13S1

Vβ13 is a complex subfamily of the T cell receptor. Vβ13.1 is expressed by 1.8% to 3.3% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV6-5, TRBV6-6, TRBV6-9 (based on the IMGT gene nomenclature).



HPB34.14.1 Cell line.

### Clone: IMMU 222 (IgG2b Mouse)

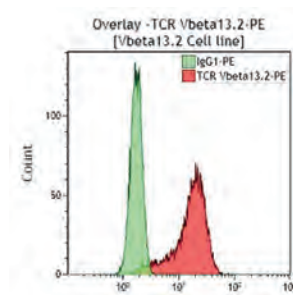
The IMMU 222 antibody recognizes Vβ13.1 member (HBP34 sequence). Vβ13.3 (IGRb14 sequence) is not recognized. Reactivity with other members of this subfamily has not been found, but cannot be formally excluded. It has been recently shown that Immu 222 can recognize the Vβ13.4 and Vβ13.6 (IGRb16 sequence) subsets.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1554</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2292</b>	ASR	IOTest	cGMP

## TCR Vβ13.2

Also called TCRBV13S2

Vβ13 is a complex subfamily of the T cell receptor. Vβ13.2 is expressed by 0.8% to 5.3% (mean 2.8%) of peripheral CD3-positive lymphocytes in normal blood.



Vbeta13.2 Cell line.

### Clone: H132 (IgG1 Mouse)

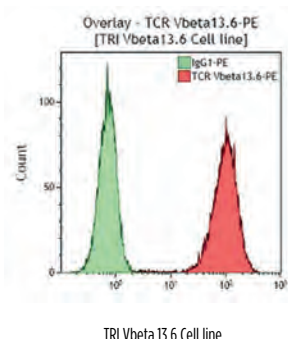
The antibody H132 recognizes the Vβ13.2 allele product, but does not react with the Vβ13.1, 13.3, 13.5 and 13.6 allele products of the Vβ13 subfamily. The specificity of this antibody has been confirmed at the Human TCR Workshop in San Francisco, CA, in 1995.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>PE</b>	1 mL	Liquid	<b>IM3603</b>	ASR	IOTest	cGMP

## TCR Vβ13.6

Also called TCRBV13S6

Vβ13 is a complex subfamily of the T cell receptor. Vβ13.6 is expressed by 0.9% to 1.9% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV6-6 (based on the IMGT gene nomenclature).



Clone: JU74.3 (IgG1 Mouse)

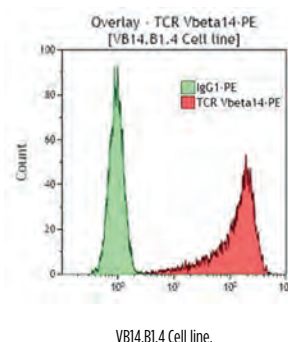
The JU74.3 antibody recognizes the Vβ13.6 sequence (IGRb16 sequence). Vβ13.1 (HBP34 sequence) is not recognized. The reactivity of the other members of this complex subfamily has not been found, but cannot be formally excluded.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1330</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>B07225</b>	ASR	IOTest	cGMP

## TCR Vβ14

Also called TCRBV14S1

Vβ14 is a single member subfamily (PL8.1 sequence identical to PH21 sequence). It is expressed by 2.2% to 5.6% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV27 (based on the IMGT gene nomenclature).



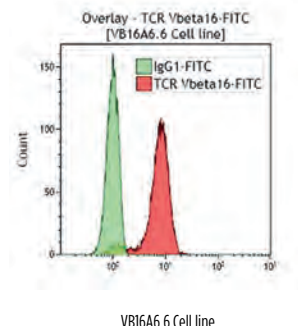
Clone: CAS1.1.3 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1558</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2047</b>	ASR	IOTest	cGMP

## TCR Vβ16

Also called TCRBV16S1

Vβ16 is a single member subfamily (HBP42 sequence identical to HT370 sequence). It is expressed by 0.4% to 1.1% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV14 (based on the IMGT gene nomenclature).



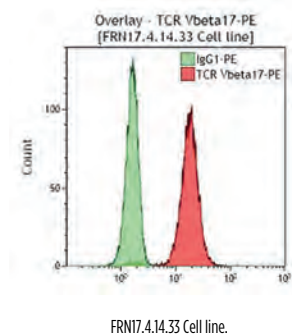
Clone: TAMAYA1.2 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1560</b>	ASR	IOTest	cGMP

## TCR Vβ17

Also called TCRBV17S1

Vβ17 is a single member subfamily (HBVT02 sequence). It is expressed by 3.3% to 7% of peripheral CD3+ cells in normal blood. Vβ17 is the target of Mycoplasma Arthritis Superantigen (MAS) and Staphylococcal Enterotoxin B (SEB). This sequence is also referred to as TRBV19 (based on the IMGT gene nomenclature).



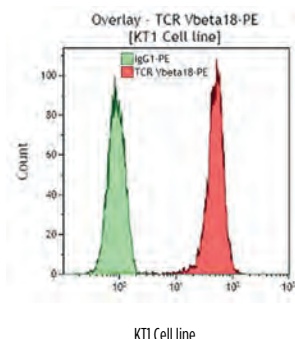
Clone: E17.5F3.15.13 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1234</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2048</b>	ASR	IOTest	cGMP

## TCR Vβ18

Also called TCRBV18S1

Vβ18 is a single member subfamily (PH29 sequence identical to the HBVT56 sequence). It is expressed by 0.7% to 1.4% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV18 (based on the IMGT gene nomenclature).



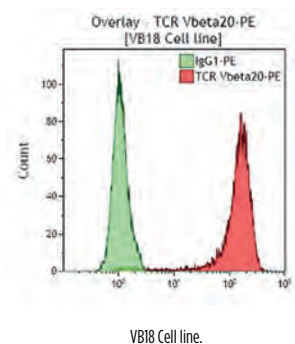
Clone: BA62.6 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM2049	ASR	IOTest	cGMP

## TCR Vβ20

Also called TCRBV20S1

Vβ20 is a single member subfamily (HUT102 sequence) of the T cell receptor. Two alleles have been identified for this sequence. One of them is a frequent null allele (frequency estimated at 11%). No cells are stained on PBL from certain specimens whereas around 2.4% is expected for specimens expressing the functional allele. This sequence is also referred to as TRBV30 (based on the IMGT gene nomenclature).



Clone: ELL1.4 (IgG2a Mouse)

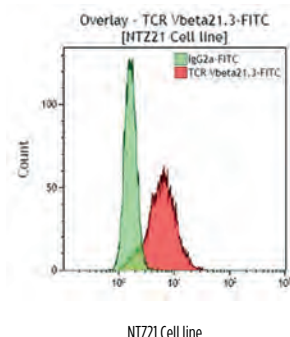
Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	1 mL	Liquid	IM1562	ASR	IOTest	cGMP
PE	1 mL	Liquid	IM2295	ASR	IOTest	cGMP



## TCR V $\beta$ 21.3

Also called TCRBV21S3

V $\beta$ 21 is a subfamily of the T cell receptor. The V $\beta$ 21.3 is expressed by 2.2% to 3.6% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV11-2 (based on the IMGT gene nomenclature).



### Clone: IG125 (IgG2a Mouse)

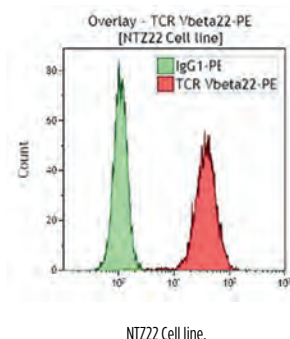
The IG125 antibody recognizes the IGRb01 sequence identical to TCR BV21.3 sequence. Recognition of other sequences within this subfamily has not been found, but cannot be formally excluded.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1483</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 22

Also called TCRBV22S1

V $\beta$ 22 is a subfamily of the T cell receptor. The V $\beta$ 22 is expressed by 2.4% to 5.1% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV2 (based on the IMGT gene nomenclature).



### Clone: IMMU 546 (IgG1 Mouse)

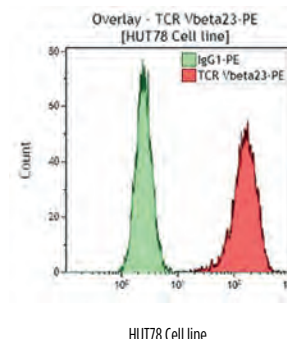
The IMMU 546 antibody recognizes the IGRb03 sequence. Another gene has been described for this family which differs by only one amino acid and may represent an allelic variant. Recognition of this sequence is likely, but has not been formally proven yet.

Form	Size	Format	Part#	Status	Line	Quality Standard
<b>FITC</b>	1 mL	Liquid	<b>IM1484</b>	ASR	IOTest	cGMP
<b>PE</b>	1 mL	Liquid	<b>IM2051</b>	ASR	IOTest	cGMP

## TCR V $\beta$ 23

Also called TCRBV23S1

V $\beta$ 23 is a family with a single member (IGRb04 sequence). V $\beta$ 23 is expressed on the HUT78 and H9 cell lines, which is frequently used to grow HIV. It is expressed by 0.4% to 5% of peripheral CD3+ cells in normal blood. This sequence is also referred to as TRBV13 (based on the IMGT gene nomenclature).

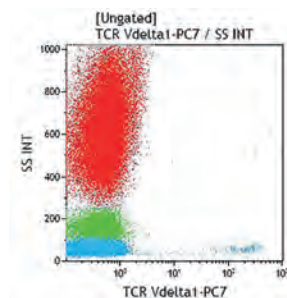


Clone: AF23 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	1 mL	Liquid	IM2004	ASR	IOTest	cGMP

## TCR V $\delta$ 1

V $\delta$ 1 is a variable segment of the  $\gamma\delta$  T cell receptor. V $\delta$ 1 is rearranged on both C $\alpha$  and C $\delta$  and is expressed in these two cell types. V $\delta$ 1+  $\gamma\delta$ + cells are the major T cell population at birth and are over expressed in intestinal intraepithelial lymphocytes. This sequence is also referred to as TRDV1 (based on the IMGT gene nomenclature).



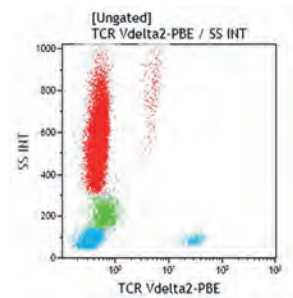
Clone: R9.12 (IgG1 Mouse)

R9.12 reacts only with  $\gamma\delta$ + V $\delta$ 1+ cells and not with  $\alpha\beta$ + V $\delta$ 1+ cells.

Form	Size	Format	Part#	Status	Line	Quality Standard
PC7	0.5 mL	Liquid	B49309	ASR	IOTest	cGMP
UNLB	0.1 mg	Freeze-dried	IM1761	RUO	-	cGMP

## TCR Vδ2

Vδ2 is the human variable δ2 gene of the γδ T cell receptor. Vδ2+ T cells are the main population of the circulating γδ T cells. It is expressed by 0.5% to 10% of PBL in normal blood, representing around 70% of the peripheral γδ T cells. Vδ2 is mostly associated with Vγ9. This sequence is also referred to as TRDV2 (based on the IMGT gene nomenclature).



Lysed normal whole blood sample.

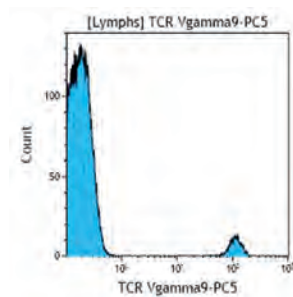
### Clone: IMMU 389 (IgG1 Mouse)

The IMMU 389 antibody gives excellent results in immunofluorescence and frozen sections. It also works in Western blot. It recognizes the γδ complex from the Vδ2+ T cell receptor (non reducing conditions), and the isolated δ chain under reducing conditions. It immunoprecipitates the γδ complex of Vδ2+ T cell clones.

Form	Size	Format	Part#	Status	Line	Quality Standard
PB	0.5 mL	Liquid	B49310	ASR	IOTest	cGMP
FITC	1 mL	Liquid	IM1464	ASR	IOTest	cGMP

## TCR Vγ9

Vγ9 is the only functional member of the group II γ variable genes of the γδ T cell receptor. It is expressed by 0.5% to 10% of PBL in normal blood, representing around 70% of circulating γδ+ T cells. Therefore, Vγ9 positive cells are the major population of circulating γδ T cells. Vγ9 is mainly associated with Vδ2. The combination Vγ9-Vδ2 γδ T cell seems to recognize mycobacterial antigens. This sequence is also referred to as TRGV9 (based on the IMGT gene nomenclature).



Lysed normal whole blood sample gated on lymphocytes.

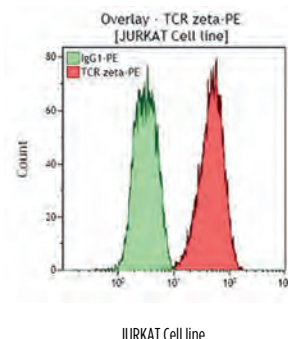
### Clone: IMMU 360 (IgG1 Mouse)

IMMU 360 may be used in flow cytometry, immunoprecipitation, Western blot and immunohistochemistry techniques. IMMU 360 cross reacts with: Squirrel Monkey.

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	1 mL	Liquid	IM1463	ASR	IOTest	cGMP
PC5	0.5 mL	Liquid	A63663	ASR	IOTest	cGMP

## TCR $\zeta$

The  $\zeta$  subunit is a 16 kDa surface molecule associated with the T cell receptor. Its expression is restricted to T lymphocytes and NK cells. In T lymphocytes, the  $\zeta$  subunit is expressed as a disulfide-linked homodimer of 32 kDa or as a disulfide-linked heterodimer with a 21 kDa subunit designated  $\eta$ . Both of these dimeric species are non-covalently associated with the remaining subunits of the CD3-TCR-antigen receptor complex. In NK cells, the  $\zeta$  subunit is expressed as a disulfide-linked homodimer of 32 kDa or as a disulfide-linked heterodimer with a 12 kDa subunit. It is associated with the CD16 molecule (Fc $\gamma$ RIII).



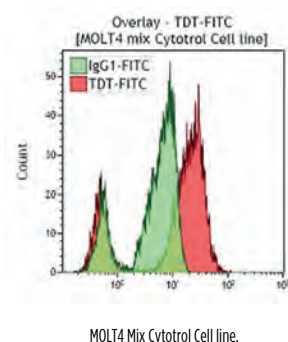
### Clone: 2H2D9 (IgG1 Mouse)

The 2H2D9 (TIA-2) antibody recognizes a cytoplasmic epitope of the  $\zeta$  subunit of the T lymphocyte receptor complex. It is suitable for immunoprecipitation, immunoblotting, and flow cytometric analysis of permeabilized cells. The TIA-2 antibody was evaluated during the Fifth International Workshop on Human Leukocyte Differentiation Antigens. TIA-2 antibody can be used to detect intracytoplasmic TCR- $\zeta$  in flow cytometry after permeabilization with digitonin.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM3169	ASR	IOTest	cGMP

## TdT

Terminal deoxynucleotidyl transferase (TdT) is a nuclear enzyme with a molecular weight of 58 kDa. This molecule catalyses random addition of nucleotides on the 3' OH termini of single-stranded DNA. TdT differs from other DNA polymerases because it does not require a template sequence for polymerization. TdT is mainly expressed during the maturation of the immune system in primary and secondary lymphoid organ cells: i.e. precursors of B lymphocytes in the bone marrow and precursors of T-lymphocytes in the thymus. The TdT expression is not found in myeloid, erythroid, or megakaryocytic precursors, or in other non lymphoid cell components in every tissue, including mesenchymal, epithelial, and germ cells.



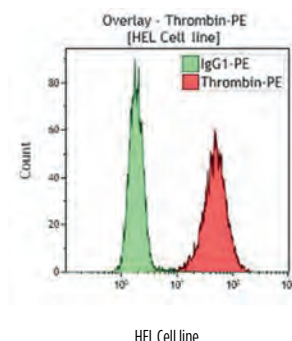
### Clone: HT1 + HT4 + HT8 + HT9 (IgG Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
FITC	50 tests	Liquid	IM3524	CE/IVD	-	IVDR
FITC	1 mL	Liquid	IM3524U	ASR	-	cGMP



## Thrombin receptor

Thrombin is a coagulation protease produced at sites of vascular injury that activates platelets, endothelial cells, leukocytes and mesenchymal cells via cleavage of specific cell surface receptors known as proteinase activated receptors (PARs). A functional thrombin receptor from human platelets has been cloned and sequenced. It is a 66-kDa, single polypeptide chain that belongs to the cell surface G-protein-coupled receptor family, with seven transmembrane domains and an extracellular N terminus. The thrombin cleavage site is located in the N terminus between Arg41 and Ser42. Following cleavage by thrombin, activated receptors undergo desensitization and internalization but a fraction of them are recycled to the cell surface. The Thrombin Receptor is expressed on a variety of cells including platelets and endothelium. The receptor is a substrate of thrombin and has been shown to play a role in the activation of platelets.



### Clone: SPAN 12 (IgG1 Mouse)

The SPAN 12 antibody recognizes an epitope on the receptor that spans the thrombin cleavage site. It binds to intact receptors, but not to cleaved ones. SPAN 12 inhibits thrombin-induced receptor activation at reduced thrombin concentrations.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2583	ASR	IOTest	cGMP

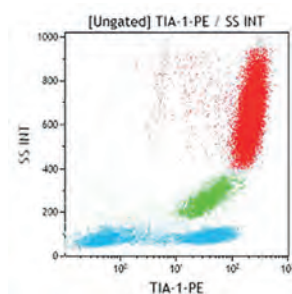
### Clone: WEDE15 (IgG1 Mouse)

The WEDE15 antibody recognizes an epitope on the receptor, distant from the N-terminal thrombin cleavage site (WEDEE). It reacts with both intact and cleaved receptors.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM2584	ASR	IOTest	cGMP

## TIA-1

The T cell intracellular antigen 1 (TIA-1) is a 17 kDa cytoplasmic granule-associated protein, expressed in cells possessing cytolytic potential. TIA-1 is also designated as GMP-17 (granule membrane protein of 17 kDa). The GMP-17/TIA-1 molecule could be involved in the molecular signaling cascade during Fas (CD95)-mediated apoptosis. In normal peripheral blood lymphocytes, TIA-1 is expressed by 90% of CD16<sup>+</sup>, 50-60% of CD8<sup>+</sup>, and less than 10% of CD4<sup>+</sup> cells. Although TIA-1 may be detected in unstimulated T lymphocytes, activated T lymphocytes are induced to express disulfide linked polymers of the 17 kDa protein, also recognized by TIA-1. TIA-1 is expressed by all monocytes and granulocytes, by activated CD4<sup>+</sup> T-cell clones and activated natural killer cell clones, and by Con A-activated thymocytes. On the contrary, TIA-1 is not expressed by B lymphocytes or B-cell lines.



Lysed normal whole blood sample.

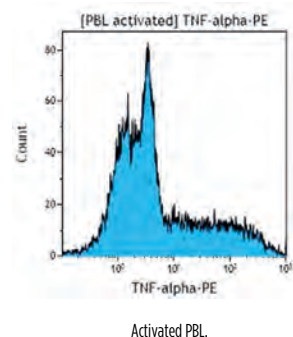
### Clone: 2G9A10F5 (IgG1 Mouse)

The 2G9 antibody is a useful reagent for detecting cytolytic effector cells in tissue infiltrates. It was evaluated during HLDA 5 in the section of monoclonal antibodies reactive with intracellular antigens. It may be used to detect intracytoplasmic TIA-1 in flow cytometry after permeabilization with IntraPrep permeabilization reagent.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM3293	ASR	IOTest	cGMP
UNLB	0.2 mg	Freeze-dried	IM2550	ASR	-	cGMP

## TNF $\alpha$

Tumor necrosis factor  $\alpha$  (TNF $\alpha$ ) or cachectin is a cytokine that was first identified based on its cytotoxic activity against various cell lines and tumor cells. Human TNF $\alpha$  is synthesized as a pro-protein with a molecular weight of 26 kDa (membrane-bound form). The pro-protein is cleaved by a specific metalloprotease (TACE) yielding a monomeric, soluble form of 17 kDa. Under physiological conditions, TNF $\alpha$  forms a homotrimeric protein. This cytokine is primarily produced by mononuclear phagocytes, and by activated lymphocytes. Immunostaining allows intracellular detection of TNF $\alpha$  before it can be detected by a bioassay. TNF $\alpha$  acts on target cells by binding to two types of receptors, the TNF $\alpha$  receptor I (TNF-RI or CD120a) and the TNF $\alpha$  receptor II (TNF-RII or CD120b). TNF $\alpha$  elicits a wide spectrum of immune and inflammatory responses, including the induction of other cytokines and immunoregulatory molecules, cell growth and differentiation and apoptosis. This molecule is also involved in Th1 - Th2 (T helper 1 - T helper 2) cytokine pathways (or Type 1 - Type 2 responses), as a Th1-effector cytokine.

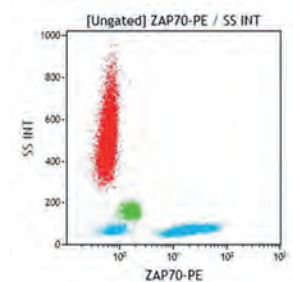


Clone: IPM2 (IgG1 Mouse)

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	2 mL	Liquid	IM3279U	ASR	IOTest	cGMP
AF700	0.5 mL	Liquid	B76295	ASR	IOTest	cGMP

## ZAP-70

Zap-70, a Syk family protein tyrosine kinase expressed in T and NK cells, plays a critical role in mediating T cell activation in response to T cell receptor (TCR) engagement. Following TCR engagement, Zap-70 is rapidly phosphorylated on several tyrosine residues, presumably by two mechanisms: autophosphorylation and transphosphorylation by the Src family tyrosine kinase, Lck. Tyrosine phosphorylation of Zap-70 correlates with its increased kinase activity and downstream signaling events.



Clone: SBZAP (IgG1 Mouse)

The monoclonal antibody SBZAP was generated against a KLH-peptide sequence corresponding to the human ZAP-70 amino acid residues 280-309.

Form	Size	Format	Part#	Status	Line	Quality Standard
PE	50 tests	Liquid	B57658	RUO	IOTest	cGMP
UNLB	50 tests	Liquid	B10739	RUO	-	cGMP

## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## IgG1 Mouse

Form	Size	Format	Line	Status	Quality Standard	Part #
<b>PB</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A74766</b>
<b>PB</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A74764</b>
<b>KrO</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A96415</b>
<b>FITC</b>	2 mL	Liquid	IOTest	ASR	cGMP	<b>IM0639U</b>
<b>FITC</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07795</b>
<b>FITC</b>	50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603864</b>
<b>FITC</b>	100 tests	Freeze-dried	COULTER CLONE	IVD	cGMP	<b>6602928</b>
<b>PE</b>	2 mL	Liquid	IOTest	ASR	cGMP	<b>IM0670U</b>
<b>PE</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07796</b>
<b>RD1</b>	100 tests	Liquid	COULTER CLONE	IVD	98/79/EC	<b>6602884</b>
<b>ECD</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>IM2714U</b>
<b>ECD</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07797</b>
<b>ECD</b>	50 tests	Liquid	CYTO-STAT	RUO	cGMP	<b>6604548</b>
<b>PC5</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>IM2663U</b>
<b>PC5</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07798</b>
<b>PC5</b>	50 tests	Liquid	CYTO-STAT	RUO	cGMP	<b>6607012</b>
<b>PC5.5</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A62833</b>
<b>PC5.5</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A62834</b>
<b>PC7</b>	100 tests	Liquid	IOTest	RUO	cGMP	<b>6607099</b>
<b>PC7</b>	100 tests	Liquid	IOTest	CE/IVD	98/79/EC* pending IVDR certification	<b>737662</b>
<b>APC</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>IM2475</b>
<b>APC</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>IM2475U</b>
<b>APC-A700</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A71118</b>
<b>APC-A700</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A79391</b>
<b>APC-A750</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A71120</b>
<b>APC-A750</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A79393</b>

## IgG2a Mouse

Form	Size	Format	Line	Status	Quality Standard	Part #
<b>FITC</b>	2 mL	Liquid	IOTest	ASR	cGMP	<b>A12690</b>
<b>FITC</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A12689</b>
<b>FITC</b>	50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603855</b>
<b>PE</b>	2 mL	Liquid	IOTest	ASR	cGMP	<b>A09141</b>
<b>PE</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A09142</b>
<b>RD1</b>	50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6604119</b>
<b>ECD</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A09144</b>
<b>PC5</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A09147</b>
<b>PC5</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A09148</b>
<b>PC7</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A12692</b>
<b>APC</b>	1 mL	Liquid	IOTest	ASR	cGMP	<b>A12694</b>
<b>APC</b>	100 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A12693</b>





### IgG2b Mouse

Form	Size	Format	Line	Status	Quality Standard	Part #
<b>FITC</b>	50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603853</b>
<b>RD1</b>	0.5 mL	Liquid	CYTO-STAT	ASR	cGMP	<b>6603852</b>
<b>ECD</b>	0.5 mL	Liquid	CYTO-STAT	ASR	cGMP	<b>6604700</b>

### IgM Mouse

Form	Size	Format	Line	Status	Quality Standard	Part #
<b>FITC</b>	2 mL	Liquid	IOTest	ASR	cGMP	<b>IM1269U</b>
<b>UNLB</b>	100 tests	Liquid	-	RUO	cGMP	<b>IM1268</b>

# ANTIBODIES AND KITS



# CE/IVD Single Color Antibodies

Beckman Coulter offers the largest portfolio of CE-IVD conjugated antibodies validated against clinical standards. We develop and manufacture reagents according to current Good Manufacturing Practices (cGMP), the highest quality standards in the industry, ensuring optimal antibody panel performance. We have a broad portfolio of clones and dyes which allows flexible panel design.

Name	Clone	Size	Page
	Form		Part#
CD1a	<b>BL6 (IgG1 Mouse)</b>		<b>32</b>
	PE	100 tests	A07742
CD2	<b>39C1.5 (IgG2a Rat)</b>		<b>33</b>
	FITC	100 tests	A07743
	PE	100 tests	A07744
	PC5	100 tests	A07745
	PC7	100 tests	A21689
	APC	100 tests	B49210
CD3	<b>UCHT1 (IgG1 Mouse)</b>		<b>34</b>
	PB	50 tests	B49204
	FITC	100 tests	A07746
	PE	100 tests	A07747
	ECD	100 tests	A07748
	PC5	100 tests	A07749
	PC5.5	50 tests	B49203
	PC7	100 tests	737657
	APC	100 tests	IM2467
	APC-A750	50 tests	A94680
CD4	<b>13B8.2 (IgG1 Mouse)</b>		<b>35</b>
	PB	50 tests	B49197
	FITC	100 tests	A07750
	PE	100 tests	A07751
	PC5	100 tests	A07752
	APC	100 tests	IM2468
CD4	<b>SFC112T4D11 (IgG1 Mouse)</b>		<b>35</b>
	PC7	100 tests	737660
CD5	<b>BL1a (IgG2a Mouse)</b>		<b>36</b>
	FITC	100 tests	A08932
	PE	100 tests	A07753
	PC5	100 tests	A07754
	PC5.5	50 tests	B49191
	PC7	100 tests	A21690
	APC-A750	50 tests	B92413
CD7	<b>8H8.1 (IgG2a Mouse)</b>		<b>37</b>
	FITC	100 tests	A07755
	PC5	100 tests	IM3613
	PC7	100 tests	B49183
	APC-A700	50 tests	B36290
CD8	<b>B9.11 (IgG1 Mouse)</b>		<b>38</b>
	PB	50 tests	B49182
	FITC	100 tests	A07756
	PE	100 tests	A07757
	PC5	100 tests	A07758
	APC	100 tests	IM2469
	APC-A700	50 tests	B49181
	APC-A750	50 tests	A94683
CD8	<b>SFC121Thy2D3 (IgG1 Mouse)</b>		<b>38</b>
	ECD	50 tests	737659
	PC7	100 tests	737661

Name	Clone	Size	Page
	Form		Part#
CD10	<b>ALB1 (IgG1 Mouse)</b>		<b>40</b>
	FITC	100 tests	A07759
	PE	100 tests	A07760
	PC5	100 tests	A07761
	PC7	100 tests	B96750
	APC	100 tests	B92400
	APC-A700	50 tests	B49223
CD11b	<b>Bear1 (IgG1 Mouse)</b>		<b>41</b>
	PB	50 tests	B36296
	FITC	100 tests	IM0530
	APC-A750	50 tests	B36295
CD11c	<b>BUI5 (IgG1 Mouse)</b>		<b>42</b>
	PE	100 tests	IM1760
	PC7	100 tests	B96763
CD13	<b>SJ1D1 (IgG1 Mouse)</b>		<b>43</b>
	PE	100 tests	A07762
CD13	<b>Immu103.44 (IgG1 Mouse)</b>		<b>43</b>
	ECD	100 tests	B36286
	PC5	100 tests	A07763
	PC5.5	50 tests	B49196
CD14	<b>RMO52 (IgG2a Mouse)</b>		<b>44</b>
	FITC	100 tests	B36297
	PE	100 tests	A07764
	ECD	100 tests	B92391
	PC5	100 tests	A07765
	APC	100 tests	IM2580
	APC-A750	50 tests	B92421
CD15	<b>80H5 (IgM Mouse)</b>		<b>45</b>
	PB	50 tests	B49218
	FITC	100 tests	B36298
	PC5	100 tests	B49217
CD16	<b>3G8 (IgG1 Mouse)</b>		<b>46</b>
	PB	50 tests	B36292
	FITC	100 tests	B49215
	PE	100 tests	A07766
	ECD	100 tests	B49216
	PC5	100 tests	A07767
	APC-A750	50 tests	B49184
CD19	<b>J3-119 (IgG1 Mouse)</b>		<b>48</b>
	PB	50 tests	B49213
	FITC	100 tests	A07768
	PE	100 tests	A07769
	ECD	100 tests	A07770
	PC5	100 tests	A07771
	PC5.5	50 tests	B49211
	PC7	100 tests	IM3628
	APC	100 tests	IM2470
	APC-A700	50 tests	B49212
	APC-A750	50 tests	A94681

Name	Clone	Size	Page
	Form		Part#
CD20	<b>B9E9 (IgG2a Mouse)</b>		<b>49</b>
	PB	50 tests	B49208
	FITC	100 tests	A07772
	PE	100 tests	IM1451
	ECD	100 tests	B92433
	PC5	100 tests	A07773
	PC7	100 tests	IM3629
	APC	100 tests	A21693
CD20	<b>APC-A750</b>	50 tests	B49209
CD20	<b>FMC7 (IgM Mouse)</b>		<b>49</b>
	PB	50 tests	B96782
	FITC	100 tests	A07791
CD22	<b>SJ10.1H11 (IgG1 Mouse)</b>		<b>50</b>
	PE	100 tests	IM1835
	APC	50 tests	B96777
	APC-A700	50 tests	B36293
CD23	<b>9P25 (IgG1 Mouse)</b>		<b>51</b>
	FITC	100 tests	IM0529
	PE	100 tests	B49207
CD24	<b>ALB9 (IgG1 Mouse)</b>		<b>51</b>
	PE	100 tests	B92425
CD25	<b>B1.49.9 (IgG2a Mouse)</b>		<b>52</b>
	PE	100 tests	A07774
	PC5	100 tests	IM2646
	PC5.5	50 tests	B92458
	APC-A700	50 tests	B92454
CD27	<b>1A4CD27 (IgG1 Mouse)</b>		<b>53</b>
	PE	100 tests	B96790
	PC7	100 tests	B49205
CD33	<b>D3HL60.251 (IgG1 Mouse)</b>		<b>56</b>
	PE	100 tests	A07775
	PC5	100 tests	IM2647
	PC5.5	50 tests	B36289
	PC7	100 tests	B92408
	APC	100 tests	IM2471
CD34	<b>581 (IgG1 Mouse)</b>		<b>57</b>
	FITC	100 tests	IM1870
	PE	100 tests	A07776
	ECD	100 tests	B49202
	PC5	100 tests	A07777
	PC7	100 tests	A21691
	APC	100 tests	IM2472
	APC-A700	50 tests	B92417
CD36	<b>FA6.152 (IgG1 Mouse)</b>		<b>58</b>
	FITC	100 tests	B49201

If you require a different antibody fluorochrome combination, please refer to the Custom Design Services on page 16 or contact us via: cds.support@beckman.com

# ANTIBODIES AND KITS



# CE/IVD Single Color Antibodies

Name	Clone	Size	Page
Form		Part#	
CD38	T16 (IgG1 Mouse)		59
	FITC	100 tests	A07778
CD38	LS198-4-3 (IgG1 Mouse)		59
	PB	50 tests	B92396
	PE	100 tests	A07779
	PC5	100 tests	A07780
	PC5.5	50 tests	B49199
	PC7	50 tests	B49198
	APC-A750	50 tests	B49200
CD41	P2 (IgG1 Mouse)		61
	PE	100 tests	A07781
CD43	DFT1 (IgG1 Mouse)		63
	APC-A750	50 tests	B49195
CD45	J33 (IgG1 Mouse)		64
	PB	100 tests	A74763
	KrO	100 tests	B36294
	FITC	100 tests	A07782
	PE	100 tests	A07783
	ECD	100 tests	A07784
	PC5	100 tests	A07785
	PC5.5	100 tests	A62835
	PC7	100 tests	IM3548
	APC	100 tests	IM2473
	APC-A700	100 tests	A79390
	APC-A750	100 tests	A79392
CD45RA	2H4LDH11LDB9 (IgG1 Mouse)		65
	ECD	100 tests	B49193
	APC-A750	50 tests	B49194
CD45RA	ALB11 (IgG1 Mouse)		65
	FITC	100 tests	A07786
CD45RO	UCHL1 (IgG2a Mouse)		66
	PE	100 tests	A07787
	ECD	100 tests	B49192
CD55	JS11KSC2.3 (IgG1 Mouse)		69
	PE	100 tests	B49190
CD56	N901 (IgG1 Mouse)		70
	PE	100 tests	A07788
	ECD	100 tests	B49214
	PC5	100 tests	A07789
	PC5.5	50 tests	B49189
	PC7	100 tests	A21692
	APC	100 tests	IM2474
	APC-A700	50 tests	B92446
CD57	NC1 (IgM Mouse)		71
	FITC	100 tests	B49188
CD59	P282E (IgG2a Mouse)		72
	FITC	100 tests	B49187
CD61	SZ21 (IgG1 Mouse)		72
	FITC	100 tests	IM1758
CD62P	CLB-Thromb/6 (IgG1 Mouse)		73
	FITC	100 tests	A07790
CD63	CLB-Gran/12 (IgG1 Mouse)		74
	FITC	100 tests	B92467
CD64	22 (IgG1 Mouse)		74
	FITC	100 tests	B49185
	PC5	100 tests	B49186
	APC-A750	50 tests	B96769

Name	Clone	Size	Page
Form		Part#	
CD65	88H7 (IgM Mouse)		75
	FITC	100 tests	B36299
CD69	TP1.55.3 (IgG2b Mouse)		76
	PC5	100 tests	IM2656
CD71	YDJ1.2.2 (IgG1 Mouse)		77
	FITC	100 tests	IM0483
CD79a	HM47 (IgG1 Mouse)		78
	PE	100 tests	IM2221
	APC	100 tests	B36287
CD79b	CB3-1 (IgG1 Mouse)		78
	PE	100 tests	IM1612
	APC	50 tests	B96773
CD103	2G5 (IgG2a Mouse)		84
	FITC	100 tests	B49222
CD105	TEA3/17.1.1 (IgG1 Mouse)		85
	PE	50 tests	B92442
CD117	104D2D1 (IgG1 Mouse)		87
	PE	100 tests	IM2732
	PC5	100 tests	IM2733
	PC5.5	50 tests	B96754
	PC7	100 tests	B49221
	APC	100 tests	B36300
	APC-A750	50 tests	B92450
CD127	R34.34 (IgG1 Mouse)		89
	PE	100 tests	B49220
CD138	B-A38 (IgG1 Mouse)		92
	PE	100 tests	A54190
	PC5	100 tests	A54191
	PC5.5	50 tests	B96786
	APC	50 tests	B49219
CD200	OX-104 (IgG1 Mouse)		102
	PC7	50 tests	B92472
CD203c	97A6 (IgG1 Mouse)		103
	PE	100 tests	B92404
CD235a	11E4B-7-6 (IgG1 Mouse)		106
	FITC	100 tests	B49206
	PE	100 tests	A07792
FMC7	FMC7 (IgM Mouse)		116
	PB	50 tests	B96782
	FITC	100 tests	A07791
HLA-DR	Immu-357 (IgG1 Mouse)		120
	PB	50 tests	B36291
	FITC	100 tests	B96758
	PE	100 tests	IM1639
	ECD	100 tests	B92438
	PC5	100 tests	A07793
	PC7	50 tests	B49180
κ Chain	Polyclonal (F(ab') <sub>2</sub> Goat)		
	FITC	100 tests	C73900
κ Chain	Polyclonal (F(ab') <sub>2</sub> Rabbit)		124
	FITC	100 tests	B49178
λ Chain	Polyclonal (F(ab') <sub>2</sub> Goat)		
	PE	100 tests	C73901
λ Chain	Polyclonal (F(ab') <sub>2</sub> Rabbit)		125
	PE	100 tests	B49174

Name	Clone	Size	Page
Form		Part#	
Myeloperoxidase	CLB-MPO-1 (IgG2a Mouse)		126
	FITC	100 tests	IM1874
	PE	100 tests	B36288
NG2	7.1 (IgG1 Mouse)		127
	PE	100 tests	B92429
TCR PAN α/β	IP26A (IgG1 Mouse)		129
	PE	50 tests	B49177
TCR PAN γ/δ	IMMU510 (IgG1 Mouse)		130
	FITC	50 tests	B49175
	PE	50 tests	B49176
	PC5	50 tests	IM2662
TdT	HT1 + HT4 + HT8 + HT9 (IgG Mouse)		145
	FITC	50 tests	IM3524
IgG1	679.1Mc7 (IgG1 Mouse)		149
	PB	100 tests	A74764
	FITC	100 tests	A07795
	PE	100 tests	A07796
	ECD	100 tests	A07797
	PC5	100 tests	A07798
	PC5.5	100 tests	A62833
	PC7	100 tests	737662
	APC	100 tests	IM2475
	APC-A700	100 tests	A79391
	APC-A750	100 tests	A79393
IgG2a	7T4-1F5 (IgG2a Mouse)		149
	FITC	100 tests	A12689
	PE	100 tests	A09142
	PC5	100 tests	A09148
	APC	100 tests	A12693

If you require a different antibody fluorochrome combination, please refer to the Custom Design Services on page 16 or contact us via: cds.support@beckman.com

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	
CD2									
2-color									
	CD2	CD19	-	-	-	IM1289U			164
	CD19	CD2	-	-	-			6603801	162
CD3									
4-color									
	CD45	CD4	CD8	CD3	-			6607013	161, 216, 219
	CD45	CD56	CD19	CD3	-			6607073	161, 216, 219
3-color									
	CD3	CD4	-	CD45	-	IM1651			169
	CD3	CD8	-	CD45	-	IM1670			169
	CD3	CD19	-	CD45	-	IM1671			169
	CD4	CD8	-	CD3	-	IM1650			169
	CD5	CD7	CD3	-	-		A07725		166
	CD8	CD4	CD3	-	-		A07726		166
	CD8	CD4	-	CD3	-			6607053	161
	CD8	CD4	-	-	CD3	6607103			163
	CD16	CD56	CD3	-	-		A07728		167
	CD25	CD4	CD3	-	-		A07727		167
	CD45	CD4	-	CD3	-			6607015	161
	CD45	CD8	-	CD3	-			6607017	161
	CD45	CD19	-	CD3	-			6607072	162
	MPO	CD79a	CD3	-	-		A07705		168
	Neg.Ctrl.	Neg.Ctrl.	CD3	-	-		A07731		169
2-color									
	CD3	CD4	-	-	-		A07733		164
	CD3	CD4	-	-	-	IM1382			170
	CD3	CD4	-	-	-			6604929	162
	CD3	CD8	-	-	-		A07734		164
	CD3	CD8	-	-	-	IM1383			170
	CD3	CD8	-	-	-			6604930	162
	CD3	CD(16+56)	-	-	-	IM2076			164
	CD3	CD19	-	-	-		A07736		164
	CD3	CD19	-	-	-	IM1384			170
	CD3	CD19	-	-	-			6605015	162
	CD3	CD25	-	-	-	IM2667U			164
	CD3	-	-	CD56	-	A07415			164
	CD3	HLA-DR	-	-	-	IM1295U			164
	CD3	HLA-DR	-	-	-		A07737		164
	HLA-DR	CD3	-	-	-	IM1300			165

For abbreviations and product regulatory status see Information section p.1-12



# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	

### CD4

4-color									
	CD45	CD4	CD8	CD3	-			6607013	161, 216, 219
3-color									
	CD3	CD4	-	CD45	-	IM1651			169
	CD4	CD8	-	CD3	-	IM1650			169
	CD8	CD4	CD3	-	-		A07726		166
	CD8	CD4	-	CD3	-			6607053	161
	CD8	CD4	-	-	CD3	6607103			163
	CD25	CD4	CD3	-	-		A07727		167
	CD45	CD4	-	CD3	-			6607015	161
2-color									
	CD3	CD4	-	-	-		A07733		164
	CD3	CD4	-	-	-	IM1382			170
	CD3	CD4	-	-	-			6604929	162
	CD4	CD8	-	-	-	IM0747U			164
	CD4	CD8	-	-	-			6604614	162
	CD8	CD4	-	-	-	IM1379U			165
	CD8	CD4	-	-	-			6603802	162
	CD45RA	CD4	-	-	-	IM2762			165

### CD5

3-color									
	CD5	CD7	CD3	-	-		A07725		166
	CD5	CD10	CD19	-	-		A07707		166
	CD5	CD23	CD19	-	-		A07710		166
2-color									
	CD19	CD5	-	-	-	IM1346U			165

### CD7

3-color									
	CD5	CD7	CD3	-	-		A07725		166
	HLA-DR	CD7	CD45	-	-		A07724		168

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	

### CD8

4-color									
	CD45	CD4	CD8	CD3	-			6607013	161, 216, 219
3-color									
	CD3	CD8	-	CD45	-	IM1670			169
	CD4	CD8	-	CD3	-	IM1650			169
	CD8	CD4	CD3	-	-		A07726		166
	CD8	CD4	-	CD3	-			6607053	161
	CD8	CD4	-	-	CD3	6607103			163
	CD45	CD8	-	CD3	-			6607017	161
2-color									
	CD3	CD8	-	-	-		A07734		164
	CD3	CD8	-	-	-	IM1383			170
	CD3	CD8	-	-	-			6604930	162
	CD4	CD8	-	-	-	IM0747U			164
	CD4	CD8	-	-	-			6604614	162
	CD8	CD4	-	-	-	IM1379U			165
	CD8	CD4	-	-	-			6603802	162
	CD8	CD38	-	-	-	IM2695U			165
	CD57	CD8	-	-	-	IM1198			165
	HLA-DR	CD8	-	-	-	IM1199U			166

### CD10

3-color									
	CD5	CD10	CD19	-	-		A07707		166
	CD19	CD10	CD45	-	-		A07713		167
	CD20	CD10	CD19	-	-		A07708		167

### CD11c

3-color									
	CD25	CD11c	CD19	-	-		A07711		167
	CD103	CD11c	CD19	-	-		A07712		168

### CD13

3-color									
	CD14	CD13	CD45	-	-		A07722		167
	HLA-DR	CD13	CD45	-	-		A07720		168

### CD14

3-color									
	CD14	CD13	CD45	-	-		A07722		167
	CD14	CD16	CD45	-	-		A07715		167
2-color									
	CD45	CD14	-	-	-		A07738		165
	CD45	CD14	-	-	-	IM1387			170
	CD45	CD14	-	-	-			6603909	162

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	
CD(14+16)									
3-color									
	CD(14+16)	CD85k	-	CD33	-		A23413		163
	CD(14+16)	CD85k	-	CD123	-		A23416		163
CD15									
3-color									
	CD15	CD33	CD45	-	-		A07721		167
CD16									
3-color									
	CD14	CD16	CD45	-	-		A07715		167
	CD16	CD56	CD3	-	-		A07728		167
CD(16+56)									
2-color									
	CD3	CD(16+56)	-	-	-	IM2076			164
CD19									
4-color									
	CD45	CD56	CD19	CD3	-			6607073	161, 216, 219
3-color									
	CD3	CD19	-	CD45	-	IM1671			169
	CD5	CD10	CD19	-	-		A07707		166
	CD5	CD23	CD19	-	-		A07710		166
	CD19	CD10	CD45	-	-		A07713		167
	CD20	CD10	CD19	-	-		A07708		167
	CD25	CD11c	CD19	-	-		A07711		167
	CD45	CD19	-	CD3	-			6607072	162
	CD103	CD11c	CD19	-	-		A07712		168
	Kappa	Lambda	CD19	-	-		A07706		168
	FMC7	CD23	CD19	-	-		A07709		168
	Neg.Ctrl.	Neg.Ctrl.	CD19	-	-		A07730		169
2-color									
	CD2	CD19	-	-	-	IM1289U			164
	CD3	CD19	-	-	-		A07736		164
	CD3	CD19	-	-	-	IM1384			170
	CD3	CD19	-	-	-			6605015	162
	CD19	CD2	-	-	-			6603801	162
	CD19	CD5	-	-	-	IM1346U			165
CD20									
3-color									
	CD20	CD10	CD19	-	-		A07708		167
CD23									
3-color									
	CD5	CD23	CD19	-	-		A07710		166
	FMC7	CD23	CD19	-	-		A07709		168

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	

### CD25

3-color									
	CD25	CD4	CD3	-	-		A07727		167
	CD25	CD11c	CD19	-	-		A07711		167
2-color									
	CD3	CD25	-	-	-	IM2667U			164

### CD33

3-color									
	CD(14+16)	CD85k	-	CD33	-		A23413		163
	CD15	CD33	CD45	-	-		A07721		167
	CD34	CD33	CD45	-	-		A07717		167
	CD71	CD33	CD45	-	-		A07716		168

### CD34

3-color									
	CD34	CD33	CD45	-	-		A07717		167
	CD34	CD117	CD45	-	-		A07718		167
	HLA-DR	CD34	CD45	-	-		A07719		168

### CD36

2-color									
	CD36	CD235a	-	-	-	IM2279U			165

### CD38

3-color									
	CD38	CD56	CD45	-	-		A07714		168
2-color									
	CD8	CD38	-	-	-	IM2695U			165

### CD41

3-color									
	CD41	CD235a	CD45	-	-		A07723		168

For abbreviations and product regulatory status see Information section p.1-12



# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	

### CD45

4-color									
	CD45	CD4	CD8	CD3	-			6607013	161, 216, 219
	CD45	CD56	CD19	CD3	-			6607073	161, 216, 219
3-color									
	CD3	CD4	-	CD45	-	IM1651			169
	CD3	CD8	-	CD45	-	IM1670			169
	CD3	CD19	-	CD45	-	IM1671			169
	CD14	CD13	CD45	-	-		A07722		167
	CD14	CD16	CD45	-	-		A07715		167
	CD15	CD33	CD45	-	-		A07721		167
	CD19	CD10	CD45	-	-		A07713		167
	CD34	CD33	CD45	-	-		A07717		167
	CD34	CD117	CD45	-	-		A07718		167
	CD38	CD56	CD45	-	-		A07714		168
	CD41	CD235a	CD45	-	-		A07723		168
	CD45	CD4	-	CD3	-			6607015	161
	CD45	CD8	-	CD3	-			6607017	161
	CD45	CD19	-	CD3	-			6607072	162
	CD45	IgG1	-	IgG1	-			6607019	162
	CD71	CD33	CD45	-	-		A07716		168
	HLA-DR	CD13	CD45	-	-		A07720		168
	HLA-DR	CD34	CD45	-	-		A07719		168
	HLA-DR	CD7	CD45	-	-		A07724		168
	IgG1	IgG1	-	CD45	-	IM1673			170
	Neg.Ctrl.	Neg.Ctrl.	CD45	-	-		A07729		169
2-color									
	CD45	CD14	-	-	-		A07738		165
	CD45	CD14	-	-	-	IM1387			170
	CD45	CD14	-	-	-			6603909	162
	CD45	CD235a	-	-	-	IM2280U			165

### CD45RA

2-color									
	CD45RA	CD4	-	-	-	IM2762			165

### CD56

4-color									
	CD45	CD56	CD19	CD3	-			6607073	161, 216, 219
3-color									
	CD16	CD56	CD3	-	-		A07728		167
	CD38	CD56	CD45	-	-		A07714		168
2-color									
	CD3	-	-	CD56	-	A07415			164

### CD57

2-color									
	CD57	CD8	-	-	-	IM1198			165

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE / IVD	IVD	
CD71									
3-color									
	CD71	CD33	CD45	-	-		A07716		168
CD79a									
3-color									
	MPO	CD79a	CD3	-	-		A07705		168
CD85k									
3-color									
	CD(14+16)	CD85k	-	CD33	-		A23413		163
	CD(14+16)	CD85k	-	CD123	-		A23416		163
CD103									
3-color									
	CD103	CD11c	CD19	-	-		A07712		168
CD117									
3-color									
	CD34	CD117	CD45	-	-		A07718		167
CD123									
3-color									
	CD(14+16)	CD85k	-	CD123	-		A23416		163
CD235a									
3-color									
	CD41	CD235a	CD45	-	-		A07723		168
2-color									
	CD36	CD235a	-	-	-	IM2279U			165
	CD45	CD235a	-	-	-	IM2280U			165
FMC7									
3-color									
	FMC7	CD23	CD19	-	-		A07709		168
HLA-B7									
2-color									
	HLA-B27	HLA-B7	-	-	-	IM1502			165
HLA-B27									
2-color									
	HLA-B27	HLA-B7	-	-	-	IM1502			165
HLA-DR									
3-color									
	HLA-DR	CD13	CD45	-	-		A07720		168
	HLA-DR	CD34	CD45	-	-		A07719		168
	HLA-DR	CD7	CD45	-	-		A07724		168
2-color									
	CD3	HLA-DR	-	-	-	IM1295U			164
	CD3	HLA-DR	-	-	-		A07737		164
	HLA-DR	CD3	-	-	-	IM1300			165
	HLA-DR	CD8	-	-	-	IM1199U			166

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Table of Multi-Color Antibody Cocktails

Specificity	FITC	PE / RD1	ECD	PC5	PC7	Part Number			Page
						RUO	CE/IVD	IVD	
Kappa									
3-color									
	Kappa	Lambda	CD19	-	-		A07706		168
Lactoferrin									
2-color									
	MPO	Lactoferrin	-	-	-	IM2743			166
Lambda									
3-color									
	Kappa	Lambda	CD19	-	-		A07706		168
MPO									
3-color									
	MPO	CD79a	CD3	-	-		A07705		168
2-color									
	MPO	Lactoferrin	-	-	-	IM2743			166
Neg.Ctrl.									
3-color									
	Neg.Ctrl.	Neg.Ctrl.	CD3	-	-		A07731		169
	Neg.Ctrl.	Neg.Ctrl.	CD19	-	-		A07730		169
	Neg.Ctrl.	Neg.Ctrl.	CD45	-	-		A07729		169
	Neg.Ctrl.	Neg.Ctrl.	Neg.Ctrl.	-	-		A07732		169
IgG1									
3-color									
	CD45	IgG1	-	IgG1	-			6607019	162
	IgG1	IgG1	-	CD45	-	IM1673			170
	IgG1	IgG1	-	IgG1	-	IM1672			170
	IgG1	IgG1	-	IgG1	-			6607054	162
2-color									
	IgG1	IgG1	-	-	-		A07794		166
	IgG1	IgG1	-	-	-	IM1388			170
	IgG1	IgG1	-	-	-			6603796	163
	IgG1	IgG2a	-	-	-	A10974			166
	IgG1	IgG2a	-	-	-	A17599			170
	IgG2a	IgG1	-	-	-			6603795	163
	IgG2a	IgG1	-	-	-	B09981			166
IgG2a									
2-color									
	IgG1	IgG2a	-	-	-	A10974			166
	IgG1	IgG2a	-	-	-	A17599			170
	IgG2a	IgG1	-	-	-			6603795	163
	IgG2a	IgG1	-	-	-	B09981			166

For abbreviations and product regulatory status see Information section p.1-12

# ANTIBODIES AND KITS

## Multi-Color Antibody Cocktails

Our wide range of pre-formulated 2 to 4- color antibody combinations ensures reliable flow cytometry results and workflow efficiency for your clinical or research laboratories. The multi-color cocktails combine a state-of-the-art selection of antibody clones with proven dye combinations such as FITC/PE/ECD or FITC/PE/PC5. The elimination of manual antibody cocktailing enables higher productivity and reduces assay repeats caused by possible cocktailing failures. Using our multi-color antibody panels you can rely on the same lot-to-lot consistency known from Beckman Coulter single-color antibodies following our high quality standards. The pre-formulated and calibrated cocktails are optimized for use with Beckman Coulter Flow Cytometers.

Multi-Color Antibody Cocktails at a glance:

- Large portfolio of clinical grade 2 to 4-color antibody cocktails.
- Time saving and reduction of pipetting errors with premixed antibody cocktails.
- Optimized for use with Beckman Coulter Flow Cytometers.

For abbreviations, product line and product regulatory status see Information section p.1-12

## CYTO-STAT

### 4 color

#### CD45-FITC/CD4-PE/CD8-ECD/CD3-PC5

Combination	Clone	Isotype
<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
<b>CD4-RD1</b>	SFC112T4D11	IgG1 (mouse)
<b>CD8-ECD</b>	SFC121Thy2D3	IgG1 (mouse)
<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607013</b>

#### CD45-FITC/CD56-PE/CD19-ECD/CD3-PC5

Combination	Clone	Isotype
<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
<b>CD56-RD1</b>	N901	IgG1 (mouse)
<b>CD19-ECD</b>	J3-119	IgG1 (mouse)
<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607073</b>

### 3 color

#### CD8-FITC/CD4-PE/CD3-PC5

Combination	Clone	Isotype
<b>CD8-FITC</b>	SFC121Thy2D3	IgG1 (mouse)
<b>CD4-RD1</b>	SFC112T4D11	IgG1 (mouse)
<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607053</b>

#### CD45-FITC/CD4-PE/CD3-PC5

Combination	Clone	Isotype
<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
<b>CD4-RD1</b>	SFC112T4D11	IgG1 (mouse)
<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607015</b>




#### CD45-FITC/CD8-PE/CD3-PC5

Combination	Clone	Isotype
<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
<b>CD8-RD1</b>	SFC121Thy2D3	IgG1 (mouse)
<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)




Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607017</b>






## CD45-FITC/CD19-PE/CD3-PC5

Combination		Clone	Isotype		
	<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)		
	<b>CD19-RD1</b>	J3-119	IgG1 (mouse)		
	<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607072</b>

## CD45-FITC/IgG1-PE/IgG1-PC5



Combination		Clone	Isotype		
	<b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)		
	<b>IgG1-RD1</b>	2T8-2F5	IgG1 (mouse)		
	<b>IgG1-PC5</b>	2T8-2F5	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6607019</b>

## IgG1-FITC/IgG1-PE/IgG1-PC5



Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	2T8-2F5	IgG1 (mouse)		
	<b>IgG1-RD1</b>	2T8-2F5	IgG1 (mouse)		
	<b>IgG1-PC5</b>	2T8-2F5	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6607054</b>

2 color



## CD3-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD4-RD1</b>	SFC12T4D11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6604929</b>



## CD3-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD8-RD1</b>	SFC121Thy2D3	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6604930</b>



## CD3-FITC/CD19-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD19-RD1</b>	89B	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6605015</b>



## CD4-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD4-FITC</b>	SFC112T4D11	IgG1 (mouse)		
	<b>CD8-RD1</b>	SFC121Thy2D3	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6604614</b>



## CD8-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD8-FITC</b>	SFC121Thy2D3	IgG1 (mouse)		
	<b>CD4-RD1</b>	SFC12T4D11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6603802</b>

## CD19-FITC/CD2-PE



Combination		Clone	Isotype		
	<b>CD19-FITC</b>	89B	IgG1 (mouse)		
	<b>CD2-RD1</b>	SFC13Pt2H9	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	cGMP	<b>6603801</b>

## CD45-FITC/CD14-PE



Combination		Clone	Isotype		
	<b>CD45-FITC</b>	KC56	IgG1 (mouse)		
	<b>CD14-RD1</b>	116	IgM (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603909</b>



## IgG1-FITC/IgG1-PE

Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	2T8-2F5	IgG1 (mouse)		
	<b>IgG1-RD1</b>	2T8-2F5	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603796</b>




## IgG2a-FITC/IgG1-PE

Combination		Clone	Isotype		
	<b>IgG2a-FITC</b>	7T4-1F5	IgG2a (mouse)		
	<b>IgG1-RD1</b>	2T8-2F5	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	CYTO-STAT	IVD	98/79/EC	<b>6603795</b>




## IOtest

3 color




## CD8-FITC/CD4-PE/CD3-PC7

Combination		Clone	Isotype		
	<b>CD8-FITC</b>	SFCI21Thy2D3	IgG1 (mouse)		
	<b>CD4-PE</b>	SFCI12T4D11	IgG1 (mouse)		
	<b>CD3-PC7</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	RUO	cGMP	<b>6607103</b>





## CD(14+16)-FITC/CD85k-PE/CD33-PC5

Combination		Clone	Isotype		
	<b>CD(14+16)-FITC</b>	RMO52+3G8	IgG2a+IgG1 (mouse)		
	<b>CD85k-PE</b>	ZM3.8	IgG1 (mouse)		
	<b>CD33-PC5</b>	D3HL60.251	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	CE/IVD	98/79/EC	<b>A23413</b>

## CD(14+16)-FITC/CD85k-PE/CD123-PC5



Combination		Clone	Isotype		
	<b>CD(14+16)-FITC</b>	RMO52+3G8	IgG2a+IgG1 (mouse)		
	<b>CD85k-PE</b>	ZM3.8	IgG1 (mouse)		
	<b>CD123-PC5</b>	SSDCLY107D2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	CE/IVD	98/79/EC	<b>A23416</b>

## CD169-PE/HLA-DR-APC/CD64-PB



Combination		Clone	Isotype		
	<b>CD169-PE</b>	7-239	IgG1 (mouse)		
	<b>HLA-DR-APC</b>	Immu-357	IgG1 (mouse)		
	<b>CD64-PB</b>	22	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
 200 tests	Liquid	IOtest	RUO	cGMP	<b>C63854</b>

## 2 color



### CD2-FITC/CD19-PE

Combination		Clone	Isotype		
	<b>CD2-FITC</b>	39C1.5	IgG2a (rat)		
	<b>CD19-PE</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1289U</b>



### CD3-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07733</b>



### CD3-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07734</b>



### CD3-FITC/CD(16+56)-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD(16+56)-PE</b>	3G8+N901	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07735</b>
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2076</b>



### CD3-FITC/CD19-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD19-PE</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07736</b>



### CD3-FITC/CD25-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD25-PE</b>	B1.49.9	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2667U</b>



### CD3-FITC/CD56-PC5

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD56-PC5</b>	N901	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>A07415</b>



### CD3-FITC/HLA-DR-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>HLA-DR-PE</b>	B8.12.2	IgG2b (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1295U</b>



### CD3-FITC/HLA-DR-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>HLA-DR-PE</b>	Immu-357	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07737</b>



### CD4-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD4-FITC</b>	13B8.2	IgG1 (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM0747U</b>



## CD8-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD8-FITC</b>	B9.11	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1379U</b>



## CD8-FITC/CD38-PE

Combination		Clone	Isotype		
	<b>CD8-FITC</b>	B9.11	IgG1 (mouse)		
	<b>CD38-PE</b>	LS198-4-3	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2695U</b>



## CD19-FITC/CD5-PE

Combination		Clone	Isotype		
	<b>CD19-FITC</b>	J3-119	IgG1 (mouse)		
	<b>CD5-PE</b>	BL1a	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1346U</b>



## CD36-FITC/CD235a-PE

Combination		Clone	Isotype		
	<b>CD36-FITC</b>	FA6.152	IgG1 (mouse)		
	<b>CD235a-PE</b>	11E4B-7-6	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2279U</b>



## CD45-FITC/CD14-PE

Combination		Clone	Isotype		
	<b>CD45-FITC</b>	Immu19.2	IgG1 (mouse)		
	<b>CD14-PE</b>	RMO52	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	IVDR	<b>A07738</b>



## CD45-FITC/CD235a-PE

Combination		Clone	Isotype		
	<b>CD45-FITC</b>	J.33	IgG1 (mouse)		
	<b>CD235a-PE</b>	11E4B-7-6	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2280U</b>



## CD45RA-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD45RA-FITC</b>	ALB11	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM2762</b>



## CD57-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD57-FITC</b>	NC1	IgM (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1198</b>

## HLA-B27-FITC/HLA-B7-PE

Combination		Clone	Isotype		
	<b>HLA-B27-FITC</b>	HLA-ABC-m3	IgG2a (mouse)		
	<b>HLA-B7-PE</b>	BB7.1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	CE/IVD	98/79/EC* pending IVDR certification	<b>A07739</b>
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1502</b>

## HLA-DR-FITC/CD3-PE

Combination		Clone	Isotype		
	<b>HLA-DR-FITC</b>	B8.12.2	IgG2b (mouse)		
	<b>CD3-PE</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOTest	RUO	cGMP	<b>IM1300</b>





## IOtest 3

3 color

### HLA-DR-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>HLA-DR-FITC</b>	B8.12.2	IgG2b (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	RUO	cGMP	<b>IM1199U</b>

### IgG1-FITC/IgG1-PE

Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG1-PE</b>	679.1Mc7	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	CE/IVD	IVDR	<b>A07794</b>

### IgG1-FITC/IgG2a-PE

Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG2a-PE</b>	7T4-1F5	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	CE/IVD	IVDR	<b>B49179</b>
50 tests	Liquid	IOtest	RUO	cGMP	<b>A10974</b>

### IgG2a-FITC/IgG1-PE

Combination		Clone	Isotype		
	<b>IgG2a-FITC</b>	7T4-1F5	IgG2a (mouse)		
	<b>IgG1-PE</b>	679.1Mc7	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	RUO	cGMP	<b>B09981</b>

### MPO-FITC/Lactoferrin-PE

Combination		Clone	Isotype		
	<b>MPO-FITC</b>	CLB-MPO-1	IgG2a (mouse)		
	<b>Lactoferrin-PE</b>	CLB13.17	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	IOtest	RUO	cGMP	<b>IM2743</b>

### CD5-FITC/CD7-PE/CD3-ECD

Combination		Clone	Isotype		
	<b>CD5-FITC</b>	BL1a	IgG2a (mouse)		
	<b>CD7-PE</b>	8H8.1	IgG2a (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07725</b>

### CD5-FITC/CD10-PE/CD19-ECD

Combination		Clone	Isotype		
	<b>CD5-FITC</b>	BL1a	IgG2a (mouse)		
	<b>CD10-PE</b>	ALB1	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07707</b>




### CD5-FITC/CD23-PE/CD19-ECD

Combination		Clone	Isotype		
	<b>CD5-FITC</b>	BL1a	IgG2a (mouse)		
	<b>CD23-PE</b>	9P25	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07710</b>




### CD8-FITC/CD4-PE/CD3-ECD

Combination		Clone	Isotype		
	<b>CD8-FITC</b>	B9.11	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07726</b>




## CD14-FITC/CD13-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD14-FITC</b>	RMO52	IgG2a (mouse)		
	<b>CD13-PE</b>	SJID1	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07722</b>




## CD14-FITC/CD16-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD14-FITC</b>	RMO52	IgG2a (mouse)		
	<b>CD16-PE</b>	3G8	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07715</b>




## CD15-FITC/CD33-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD15-FITC</b>	8OH5	IgM (mouse)		
	<b>CD33-PE</b>	D3HL60.251	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07721</b>




## CD16-FITC/CD56-PE/CD3-ECD

Combination		Clone	Isotype		
	<b>CD16-FITC</b>	3G8	IgG1 (mouse)		
	<b>CD56-PE</b>	N901	IgG1 (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07728</b>




## CD19-FITC/CD10-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD19-FITC</b>	J3-119	IgG1 (mouse)		
	<b>CD10-PE</b>	ALB1	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07713</b>




## CD20-FITC/CD10-PE/CD19-ECD

Combination		Clone	Isotype		
	<b>CD20-FITC</b>	B9E9	IgG2a (mouse)		
	<b>CD10-PE</b>	ALB1	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07708</b>




## CD25-FITC/CD4-PE/CD3-ECD

Combination		Clone	Isotype		
	<b>CD25-FITC</b>	B1.49.9	IgG2a (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07727</b>




## CD25-FITC/CD11c-PE/CD19-ECD

Combination		Clone	Isotype		
	<b>CD25-FITC</b>	B1.49.9	IgG2a (mouse)		
	<b>CD11c-PE</b>	BU15	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07711</b>




## CD34-FITC/CD33-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD34-FITC</b>	581	IgG1 (mouse)		
	<b>CD33-PE</b>	D3HL60.251	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07717</b>




## CD34-FITC/CD117-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD34-FITC</b>	581	IgG1 (mouse)		
	<b>CD117-PE</b>	104D2D1	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07718</b>




## CD38-FITC/CD56-PE/CD45-ECD

	Combination	Clone	Isotype		
	<b>CD38-FITC</b>	T16	IgG1 (mouse)		
	<b>CD56-PE</b>	N901	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07714</b>




## CD41-FITC/CD235a-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>CD41-FITC</b>	P2	IgG1 (mouse)		
	<b>CD235a-PE</b>	11E4B-7-6	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07723</b>




## CD71-FITC/CD33-PE/CD45-ECD

	Combination	Clone	Isotype		
	<b>CD71-FITC</b>	YDJ1.2.2	IgG1 (mouse)		
	<b>CD33-PE</b>	D3HL60.251	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07716</b>




## CD103-FITC/CD11c-PE/CD19-ECD

	Combination	Clone	Isotype		
	<b>CD103-FITC</b>	2G5	IgG2a (mouse)		
	<b>CD11c-PE</b>	BU15	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07712</b>




## FMC7-FITC/CD23-PE/CD19-ECD

	Combination	Clone	Isotype		
	<b>FMC7-FITC</b>	FMC7	IgM (mouse)		
	<b>CD23-PE</b>	9P25	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07709</b>




## HLA-DR-FITC/CD13-PE/CD45-ECD

	Combination	Clone	Isotype		
	<b>HLA-DR-FITC</b>	Immu-357	IgG1 (mouse)		
	<b>CD13-PE</b>	SJID1	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07720</b>




## HLA-DR-FITC/CD34-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>HLA-DR-FITC</b>	Immu-357	IgG1 (mouse)		
	<b>CD34-PE</b>	581	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07719</b>




## HLA-DR-FITC/CD7-PE/CD45-ECD

	Combination	Clone	Isotype		
	<b>HLA-DR-FITC</b>	Immu-357	IgG1 (mouse)		
	<b>CD7-PE</b>	8H8.1	IgG2a (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07724</b>

## Kappa-FITC/Lambda-PE/CD19-ECD




	Combination	Clone	Isotype		
	<b>Kappa-FITC</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)		
	<b>Lambda-PE</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07706</b>

## cMPO-FITC/cCD79a-PE/cCD3-ECD




	Combination	Clone	Isotype		
	<b>MPO-FITC</b>	CLB-MPO-1	IgG2a (mouse)		
	<b>CD79a-PE</b>	HM47	IgG1 (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOtest 3	CE/IVD	98/79/EC	<b>A07705</b>






## Neg.Ctrl.-FITC/Neg.Ctrl.-PE/CD3-ECD

Combination		Clone	Isotype		
	<b>Neg.Ctrl.-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>Neg.Ctrl.-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>CD3-ECD</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07731</b>




## Neg.Ctrl.-FITC/Neg.Ctrl.-PE/CD19-ECD

Combination		Clone	Isotype		
	<b>Neg.Ctrl.-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>Neg.Ctrl.-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07730</b>

## Neg.Ctrl.-FITC/Neg.Ctrl.-PE/CD45-ECD

Combination		Clone	Isotype		
	<b>Neg.Ctrl.-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>Neg.Ctrl.-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>CD45-ECD</b>	J.33	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07729</b>




## Neg.Ctrl.-FITC/Neg.Ctrl.-PE/Neg.Ctrl.-ECD

Combination		Clone	Isotype		
	<b>Neg.Ctrl.-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>Neg.Ctrl.-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>Neg.Ctrl.-ECD</b>	679.1Mc7	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	IOTest 3	CE/IVD	98/79/EC	<b>A07732</b>




## OptiClone

3 color




## CD3-FITC/CD4-PE/CD45-PC5

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
	<b>CD45-PC5</b>	Immu19.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1651</b>




## CD3-FITC/CD8-PE/CD45-PC5

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
	<b>CD45-PC5</b>	Immu19.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1670</b>

## CD3-FITC/CD19-PE/CD45-PC5

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD19-PE</b>	J3-119	IgG1 (mouse)		
	<b>CD45-PC5</b>	Immu19.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1671</b>




## CD4-FITC/CD8-PE/CD3-PC5

Combination		Clone	Isotype		
	<b>CD4-FITC</b>	13B8.2	IgG1 (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
	<b>CD3-PC5</b>	UCHT1	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1650</b>








## IgG1-FITC/IgG1-PE/CD45-PC5



Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG1-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>CD45-PC5</b>	Immu19.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1673</b>

## IgG1-FITC/IgG1-PE/IgG1-PC5



Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG1-PE</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG1-PC5</b>	679.1Mc7	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1672</b>

2 color



## CD3-FITC/CD4-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1382</b>



## CD3-FITC/CD8-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD8-PE</b>	B9.11	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1383</b>



## CD3-FITC/CD19-PE

Combination		Clone	Isotype		
	<b>CD3-FITC</b>	UCHT1	IgG1 (mouse)		
	<b>CD19-PE</b>	J3-119	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1384</b>



## CD45-FITC/CD14-PE

Combination		Clone	Isotype		
	<b>CD45-FITC</b>	Immu19.2	IgG1 (mouse)		
	<b>CD14-PE</b>	RMO52	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1387</b>

## IgG1-FITC/IgG1-PE

Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG1-PE</b>	679.1Mc7	IgG1 (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>IM1388</b>

## IgG1-FITC/IgG2a-PE

Combination		Clone	Isotype		
	<b>IgG1-FITC</b>	679.1Mc7	IgG1 (mouse)		
	<b>IgG2a-PE</b>	7T4-1F5	IgG2a (mouse)		
Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	OptiClone	RUO	cGMP	<b>A17599</b>

*DURAClone IM Panels are premixed, dried reagent cocktails to standardize and streamline flow cytometry workflow for clinical research studies of the human immune system.*

DURAClone IM panels are provided with a robust compensation solution which delivers the level of standardization and workflow efficiency required for clinical research studies.

A dried reagent **single color compensation solution** is provided with each package of 25 assay tubes. DURAClone IM single color conjugate compensation tubes are color-coded with lot-matched dyes, specific for each panel.

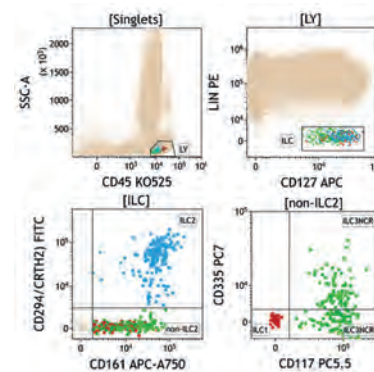
- Simplified detection of immune sub populations
- Standardized for use in clinical research studies
- Designed and optimized by expert labs from The ONE Study.



	Size	Status	Quality Standard	Part #
<b>DURAClone IM Innate Lymphoid Cells</b>	25 tests	RUO	ISO9001/2015	<b>C96081</b> <b>NEW</b>

## Identification of 3 subtypes of rare innate lymphoid cells.

Innate lymphoid cells (ILC) play an important role in innate immunity, lymphoid organogenesis, tissue remodeling and inflammation. They form a phenotypically and functionally heterogeneous population that can be categorized into 3 groups, i.e., ILC1, ILC2 and ILC3. ILCs can be found in various tissues including peripheral blood. ILCs do not express an antigen-specific receptor and are primarily defined as CD45+LineagenegCD127+ cells and are further differentiated into 3 subpopulations based on CD294 and CD117 (ILC1 CD294negCD117neg, ILC2 CD294+ and ILC3 CD294negCD117+). ILC3s are further delineated into NCR+ and NCR- based on expression of CD335 (Nkp46).



Identification of ILC1(brown); ILC2(blue) and ILC3 (green) in whole blood.

Specificity	Fluorochrome	Clone (Isotype)
CD294	FITC	BM16 (IgG2a Rat)
CD117	PC5.5	104D2D1 (IgG1 Mouse)
CD335	PC7	BAB281 (IgG1 Mouse)
CD127	APC	R34.34 (IgG1 Mouse)
CD161	APC-Alexa Fluor* 750	191B8 (IgG2a Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
Lineage PE:		
CD1a	PE	BL6 (IgG1 Mouse)
CD3	PE	UCHT1 (IgG1 Mouse)
CD14	PE	RMO52 (IgG2a Mouse)
CD16	PE	3G8 (IgG1 Mouse)
CD19	PE	J3-119 (IgG1 Mouse)
CD34	PE	581 (IgG1 Mouse)
CD94	PE	HP-3B1 (IgG2a Mouse)
CD123	PE	SSDCLY107D2 ( IgG1 Mouse)
TCR PAN α/β	PE	IP26A (IgG1 Mouse)
TCR PAN γ/δ	PE	IMMU510 (IgG1 Mouse)
FcεR1a	PE	AER-37 (IgG2b Mouse)

Size Status Quality Standard Part #

**DURAClone IM Phenotyping BASIC Tube**

25 tests

RUO

ISO9001/2015

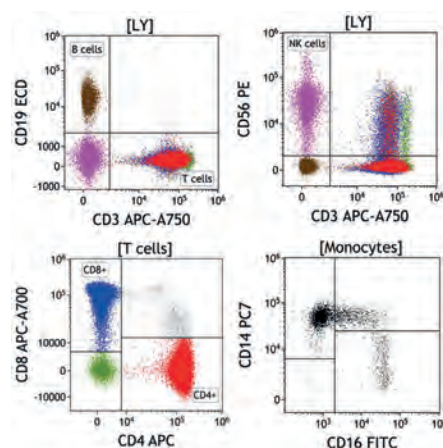
**B53309**

Lymphocytes constitute a part of the human immune system that is referred to as adaptive due to their ability to acquire cognition and memory of foreign antigens. B cells (CD45+CD19+) represent the principal part of the humoral branch of adaptive immunity producing antibodies upon terminal differentiation. The cell-mediated adaptive immune response is mainly due to T cells (CD45+CD3+) that comprise a large number of functionally diverse entities with the highest level of discrimination – though not encompassing all T cells – being either CD4+ or CD8+. While CD4+ T cells play a key role in balancing humoral, cell-mediated as well as innate immune responses, e.g. by means of cytokine secretion; CD8+ T cells are mainly responsible for Major Histocompatibility Complex (MHC) - mediated recognition and killing of tumor and virus infected cells. The CD45+CD3-CD56+ phenotype identifies Natural Killer (NK) cells that complement the specificity of T cell receptors and immunoglobulins by the recognition of the “missing self”, i.e. the absence of host matched MHC molecules presenting processed antigens on the membrane surface. Being a part of the innate human immune system, monocytes (CD45+ CD14+) play a key role in bacterial defense. Expression of the Lipopolysaccharide (LPS, endotoxin) receptor CD14 is dense on the majority of monocytes bearing a classical phenotype.

The IM Phenotyping BASIC Tube is an 8-color, 8-monoclonal antibody reagent that allows the identification of common extracellular markers of different subpopulations of lymphocytes, present in whole blood specimens.

It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color: CD4-FITC; CD4-PE; CD19-ECD; CD14-PC7; CD4-APC; CD8-A700; CD3-APC-A750; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD16	FITC	3G8 (IgG1 Mouse)
CD56	PE	N901 (IgG1 Mouse)
CD19	ECD	J3-119 (IgG1 Mouse)
CD14	PC7	RMO52 (IgG2a Mouse)
CD4	APC	13B8.2 (IgG1 Mouse)
CD8	Alexa Fluor® 700	B9.11 (IgG1 Mouse)
CD3	APC-Alexa Fluor® 750	UCHT1 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of CD4+ (red) and CD8+ (blue) T cells, NK cells (pink) and B cells (brown). Monocytes (black) are further characterized by their pattern of CD14 and CD16 expression.

Size Status Quality Standard Part #

**DURAClone IM B cells Tube**

25 tests

RUO

ISO9001/2015

**B53318**

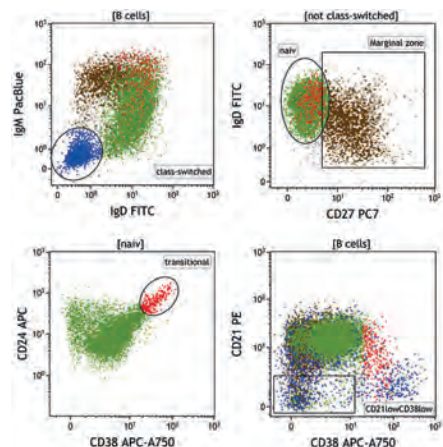
The major function of B cells (CD45+CD19+) in the human immune system is to recognize and memorize immunogenic structures and to terminally differentiate into plasma cells that produce antibodies against these recognized or memorized antigens. Late maturation stages of B cells are confined to peripheral compartments and can be described based on a previously published classification. The passage from bone marrow into peripheral compartments is associated with surface expression of immunoglobulin of the isotype classes M and D (IgM, IgD). Among IgM+ B cells high expression of CD24 along with absence of CD27 identifies transitional B cells, the earliest stage of maturation in peripheral compartments. Acquisition of CD27 expression identifies transition from a naïve to a marginal zone phenotype, further acquisition of low CD38 expression reveals memory identity (non-class switched). Loss of IgM and IgD surface expression is indicative of immunoglobulin isotype class switching giving rise to CD27+CD38- class-switched memory cells or CD27+CD38++ plasmablasts.

The DURAClone IM B cells Tube is an 8-color, 8- monoclonal antibody reagent that allows the characterization of B lymphocyte subpopulations present in whole blood samples.

It contains 3 compensation kits; each kit containing eight tubes, each containing a single color:

CD4-FITC; CD4-PE; CD19-ECD; CD27-PC7; CD4-APC; CD38-APC-A750; CD4-Pacific Blue; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
IgD	FITC	IA6-2 (IgG2a Mouse)
CD21	PE	BL13 (IgG1 Mouse)
CD19	ECD	J3-119 (IgG1 Mouse)
CD27	PC7	1A4CD27 (IgG1 Mouse)
CD24	APC	ALB9 (IgG1 Mouse)
CD38	APC-Alexa Fluor* 750	LS198-4-3 (IgG1 Mouse)
IgM	Pacific Blue*	SA-DA4 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Maturation stages of B cells with isotype class-switched (blue), marginal zone (brown) and transitional (red) B cells.



Size Status Quality Standard Part #

**DURAClone IM T cell subsets Tube**

25 tests

RUO

ISO9001/2015

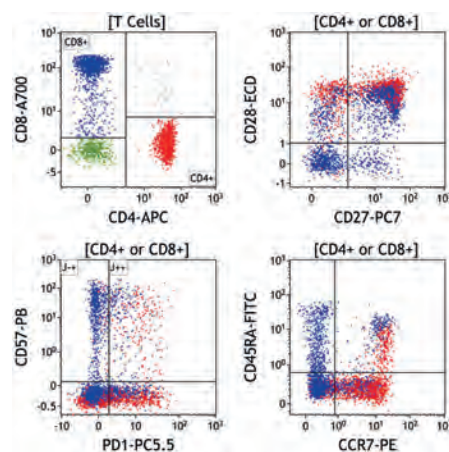
**B53328**

When studying the immune response, T cell-mediated immunity is the central component. After their maturation in the thymus, T cells circulate in blood and in the lymphatic system as naive T cells expressing lymph node homing antigens such as CD197/ CCR7. Upon exposure to foreign antigens through encounter with specialized, antigen-presenting cells in secondary lymphoid tissues, T cells become antigen-specific effector cells associated with loss of CD27 and CD28 expression. Along with the effector cells, long-living central memory (CD45RA-CCR7+) and effector memory T cells (CD45RACCR7-) are generated to achieve and preserve the ability of rapid antigen-specific immune response. Terminal effector stages of T cell differentiation are indicated by upregulation of CD57 (effector phenotype) and CD279/PD-1 (co-inhibitory molecule, exhausted phenotype) expression.

The IM T cell subsets Tube is a 10-color, 10-monoclonal antibody reagent that allows the identification of common extracellular markers of different cell subsets, present in whole blood specimens.

It contains 3 Compensation Kits, each kit containing ten tubes, each of a single color: CD4-FITC, CD4-PE, CD28-ECD, CD279-PC5.5, CD27-PC7, CD4-APC, CD8-A700, CD3-APC-A750, CD4-Pacific Blue, CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD45RA	FITC	2H4LDH11LDB9 (IgG1 Mouse)
CD197	PE	G043H7 (IgG2a Mouse)
CD28	ECD	CD28.2 (IgG1 Mouse)
CD279	PC5.5	PD1.3 (IgG2b Mouse)
CD27	PC7	1A4CD27 (IgG1 Mouse)
CD4	APC	13B8.2 (IgG1 Mouse)
CD8	Alexa Fluor* 700	B9.11 (IgG1 Mouse)
CD3	APC-Alexa Fluor* 750	UCHT1 (IgG1 Mouse)
CD57	Pacific Blue*	NC1 (IgM Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of CD4+ (red) and CD8+ (blue) T cells with their respective maturation stages according to CD27, CD28, CD45RA and CCR7. PD-1 is assessed as an important marker of activation and exhaustion.

Size Status Quality Standard Part #

## DURAClone IM Dendritic cell Tube

25 tests RUO ISO9001/2015 B53351

In human blood, DC can be separated in two main subsets, namely the myeloid DCs (mDCs) and the plasmacytoid DCs (pDCs). Both subsets share the lack of expression of classical mature lymphocytes lineage markers, CD3, CD19, CD20 and CD56 as well as the monocytic CD14 and a high expression level of HLA-DR.

mDCs and pDCs differ by their CD11c expression, with mDCs expressing high level of CD11c while pDCs do not express CD11c. pDCs, which are distinguished by the expression of CD123, are less potent to present antigen but constitute the 1st barrier in anti-viral immunity. Upon virus exposure, pDCs produce large amount of Type I interferons.

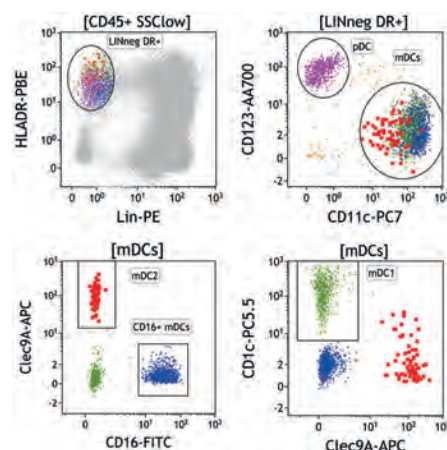
mDCs are highly efficient in antigen presentation. In blood, 3 subsets of mDCs are identified: CD1c+ mDCs (MDC1), CD141+ mDCs (MDC2), and CD16+ mDCs. MDC1 have been described as key players in the induction of immunity towards extracellular pathogens. MDC2 are suggested to drive the CD8+ T cell-mediated immune response. Recently, it has been shown that MDC2 express CLEC9A, a C-type lectin domain family. As opposed to CD141, CLEC9A presents the advantage of being expressed in both human and mouse DCs. Thus, it can serve as a DC marker crossing species barriers and may help in the translation from the mouse DC system to human immunobiology. CD16+ mDCs have been described as inflammatory dendritic cells.

The DURAClone IM Dendritic cells Tube is an 8-color, 12-monoclonal antibody reagent that allows the identification of common extracellular markers of different DC Subsets, present in whole blood specimens.

It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color:

CD4-FITC; CD4-PE; CD1c-PC5.5; CD11c-PC7; CD4-APC; CD123-APCA700; CD4-Pacific Blue; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD16	FITC	3G8 (IgG1 Mouse)
CD1c	PC5.5	L161 (IgG1 Mouse)
CD11c	PC7	BU15 (IgG1 Mouse)
Clec9A	APC	8F9 (IgG2a Mouse)
CD123	APC-Alexa Fluor* 700	SSDCLY107D2 ( IgG1 Mouse)
HLA-DR	Pacific Blue*	Immu-357 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
Lineage PE:		
CD3	PE	UCHT1 (IgG1 Mouse)
CD14	PE	RMO52 (IgG2a Mouse)
CD19	PE	J3-119 (IgG1 Mouse)
CD56	PE	N901 (IgG1 Mouse)
CD20	PE	HRC20 (IgG2a Mouse)



Characterization of dendritic cells as plasmacytoid (pink) and myeloid subtypes mDC1 (green), mDC2 (red) and CD16+mDCs (blue).

Size Status Quality Standard Part #

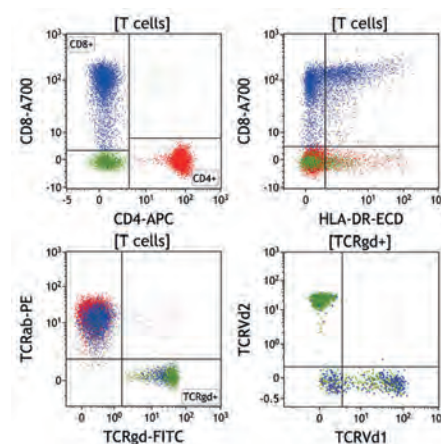
**DURAClone IM TCRs Tube**25 tests RUO ISO9001/2015 **B53340**

Mature T cells - as identified by positive surface CD3 staining - express T cell receptors (TCRs) that enable low affinity-recognition of antigens bound to major histocompatibility complex (MHC) molecules. MHC co-binding of either CD4 (MHC class II) or CD8 (MHC class I) enhances and prolongs the engagement with the antigen-presenting cells. Two forms of TCRs are known either consisting of heterodimers of variable  $\alpha$  and  $\beta$  protein chains or  $\gamma$  and  $\delta$  protein chains. Proportions of 95%  $\alpha\beta$  T cells and 5%  $\gamma\delta$  T cells are commonly found in blood. The largest subset of  $\gamma\delta$  T cells can be identified by the IMMU 389 antibody clone recognizing the  $\gamma\delta$  complex from the V $\delta$ 2+ T cell receptor (TCR $\gamma\delta$  V $\delta$ 2+), being mostly associated with V $\gamma$ 9. A smaller subset of  $\gamma\delta$  T cells is staining positive with the R9.12 antibody clone that binds to the V $\delta$ 1 segment of  $\gamma\delta$  T cells (TCR $\gamma\delta$  V $\delta$ 1+). The relative sizes of these two subsets have been assigned a role in feto-maternal and allograft tolerance.

The DURAClone IM TCRs Tube is a 9-color, 9-monoclonal antibody reagent that allows the identification of the TCR subtypes on the surface of mature T cells.

It contains 3 Compensation Kits, each kit containing 9 tubes, each of a single color: CD4-FITC, CD4-PE, HLA DR-ECD, V $\delta$ 1-PC7, CD4-APC, CD8-A700, CD3-APC-A750, CD4-Pacific Blue, CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
TCR $\gamma\delta$	FITC	IMMU510 (IgG1 Mouse)
TCR $\alpha\beta$	PE	IP26A (IgG1 Mouse)
HLA-DR	ECD	Immu-357 (IgG1 Mouse)
TCRV $\delta$ 1	PC7	R9.12 (IgG1 Mouse)
CD4	APC	13B8.2 (IgG1 Mouse)
CD8	Alexa Fluor* 700	B9.11 (IgG1 Mouse)
CD3	APC-Alexa Fluor* 750	UCHT1 (IgG1 Mouse)
TCRV $\delta$ 2	Pacific Blue*	IMMU 389 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of CD4+ (red) and CD8+ (blue) T cells and CD4-CD8- T cells (green). TCR $\gamma\delta$ -expressing T cells are further characterized by their V $\delta$ 1 or V $\delta$ 2 subtype.

Size Status Quality Standard Part #

**DURAClone IM Treg Tube**

25 tests

RUO

ISO9001/2015

**B53346**

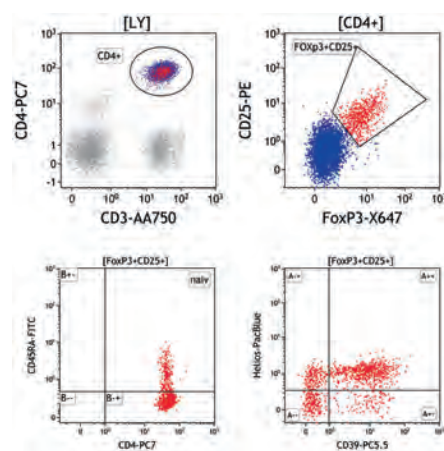
Regulatory T cells (Tregs) play a crucial role in the induction and maintenance of immunological tolerance. Together with CD4 and CD25, the expression of the transcription factor FoxP3 is considered the hallmark of human regulatory T cells (CD3+ CD4+ CD25+ FoxP3+). Helios, a transcription factor of the Ikaros family, has been described as a marker identifying thymus-derived nTregs - as opposed to Tregs induced in peripheral tissues (iTregs). Additionally, Helios acts as an enhancer of regulatory function. Surface expression of ectoenzyme CD39 exerts a suppressive function by its ATPase activity and is restricted to an effector/memory-like subpopulation of Tregs. CD45RA surface expression indicates a naïve or unprimed subpopulation of Tregs.

The DURAClone IM Treg Tube is an 8-color, 8-monoclonal antibody reagent that allows the identification of subpopulations of regulatory T cells in human whole blood samples by eight color flow cytometry.

It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color:

CD4-FITC; CD4-PE; CD39-PC5.5; CD4-PC7; FoxP3-A647; CD3-APC-A750; CD4-Pacific Blue; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD45RA	FITC	2H4LDH11LDB9 (IgG1 Mouse)
CD25	PE	B1.49.9 (IgG2a Mouse)
CD39	PC5.5	BA54 (IgG1 Mouse)
CD4	PC7	SFC112T4D11 (IgG1 Mouse)
FoxP3	Alexa Fluor* 647	259D (IgG1 Mouse)
CD3	APC-Alexa Fluor* 750	UCHT1 (IgG1 Mouse)
Helios	Pacific Blue*	22F6 (IgG Hamster)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of FoxP3+ regulatory T cells (red) as a subpopulation of T helper cells (blue) with assessment of CD45RA, CD39 and Helios.



Size Status Quality Standard Part #

**DURAClone IM Granulocytes Tube**

25 tests

RUO

ISO9001/2015

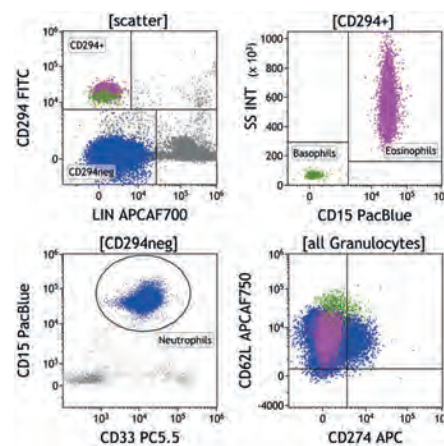
**B88651**

Granulocytes are part of the human innate immune system. Recent findings suggest that granulocytes, besides providing anti-microbial host defense, may play an important immune-modulatory role leading to an increasing interest in studying granulocytes in the context of autoimmunity and tolerance.

The DURAClone IM Granulocytes Tube is a 9-color antibody reagent that allows the identification of major granulocyte subpopulations including assessment of CD11b, CD16, CD62L and PD-1L (CD274) co-expression.

It contains 3 Compensation Kits, each kit containing 9 tubes, each of a single color: CD4-FITC; CD16-ECD; CD33-PC5.5; CD11b-PC7; CD4-APC; CD19-APC-A700; CD62L-APC-A750; CD4-Pacific Blue; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD15	Pacific Blue*	80H5 (IgM Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
CD294	FITC	BM16 (IgG2a Rat)
CD16	ECD	3G8 (IgG1 Mouse)
CD33	PC5.5	D3HL60.251 (IgG1 Mouse)
CD11b	PC7	Bear1 (IgG1 Mouse)
CD274	APC	PD-L1 (IgG1 Mouse)
Lineage APC-Alexa Fluor*700		
CD3	APC-Alexa Fluor* 700	UCHT1 (IgG1 Mouse)
CD14	APC-Alexa Fluor* 700	RMO52 (IgG2a Mouse)
CD19	APC-Alexa Fluor* 700	J3-119 (IgG1 Mouse)
CD56	APC-Alexa Fluor* 700	N901 (IgG1 Mouse)
CD62L	APC-Alexa Fluor* 750	DREG56 (IgG1 Mouse)



Identification of Basophils (green), Eosinophils (pink) and Neutrophils (blue) together with activation-dependent expression of CD62L and CD274 (PD-L1).

Size Status Quality Standard Part #

**DURAClone IM Count Tube**

25 tests

RUO

ISO9001/2015

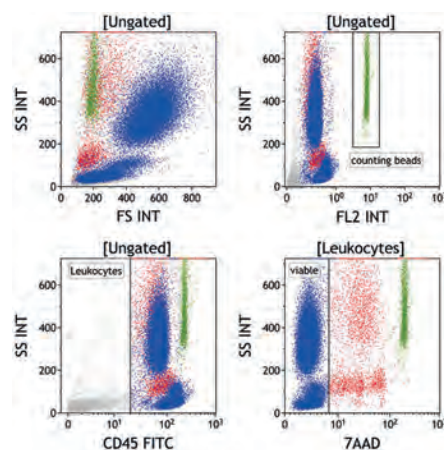
**C00162**

Although flow cytometry only provides relative quantitation of cell number, it is possible to determine the absolute cell number using reference beads of known concentration mixed with the human whole blood sample of interest.

This test is based on the ability of specific monoclonal antibodies to bind to the antigenic determinants expressed by lineage committed cells and the binding of membrane impermeant 7-aminoactinomycin D to the DNA of dead cells due to their lost membrane integrity. Additionally, the mixing of a known number of beads with a known volume of a whole blood can be used to determine the number of cells in the whole blood per unit volume.

The DURAClone IM Count is used for enumeration of CD45+ cells in whole blood while simultaneously differentiating live and dead cells.

Specificity	Fluorochrome	Clone (Isotype)
CD45	FITC	J33 (IgG1 Mouse)
7-AAD	-	-
Fluorescent Beads	-	-



Assessment of the absolute concentration of viable leukocytes (blue) based on a known concentration of beads (green). Dead leukocytes are shown as red dots.

The DURAClone IF panels reveal immune function utilizing a streamlined and simplified intracellular staining workflow.

The sensitive and specific characterization of a cytokine response at the single cell level demonstrates the unique strength of cytometry. When using dry pre-formulated DURAClone IF antibody panels you can be certain that the detection of cellular responses is not biased by antibody pipetting variability or suboptimal panel design.

Each DURAClone IF kit contains 25 assay tubes together with 3 single color compensation kits in case compensation is required for the instrument setup.

- Pre-formulated 4-6 color antibody panels
- Unitized dry Beckman Coulter proprietary format
- Expert-proven marker combinations
- Open slots for additional drop-in markers
- Designed for minimal spillover into detectors for functional read-out parameters
- Standardized for use in clinical research studies

Please see also the section on DURActive dry stimulation mixes, page 184



	Size	Status	Quality Standard	Part #
<b>DURAClone IF T Activation Tube</b>	25 tests	RUO	ISO9001/2015	<b>B88649</b>

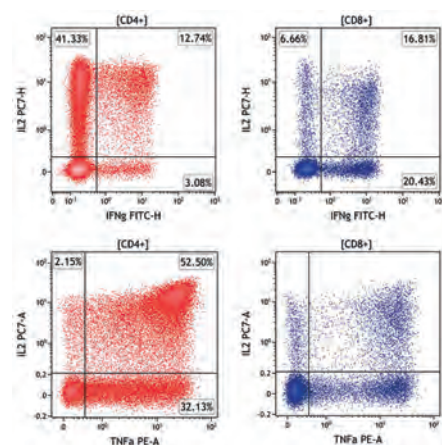
#### Detection of proinflammatory cytokines in T cells

T cells represent a central subset of the adaptive immune system. Upon recognition of specific antigens T cells - among other responses - secrete inflammatory cytokines such as IFN- $\gamma$ , TNF- $\alpha$  and IL-2 which stimulate complementary parts of the immune system to defend the host against the provoking pathogens. Identification of cytokine-secreting T cells subsets is an important tool in studying and understanding T cell function in immune activation and suppression.

The DURAClone IT T Activation tube is a 6-color reagent that allows the identification of IFN $\gamma$ , TNF $\alpha$  and IL2 secreting CD4<sup>+</sup> and CD8<sup>+</sup> T cells.

It contains 3 compensation Kits, each kit containing six tubes, each of a single color: CD4-FITC; CD4-PE; IL2-PC7; CD8-AF700; CD3-AF750; CD4-PB. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD4	Pacific Blue*	13B8.2 (IgG1 Mouse)
IFN- $\gamma$	FITC	45.15 (IgG1 Mouse)
TNF $\alpha$	PE	IPM2 (IgG1 Mouse)
IL-2	PC7	MQ1-17H12 (IgG2a Rat)
CD8	Alexa Fluor* 700	B9.11 (IgG1 Mouse)
CD3	Alexa Fluor* 750	UCHT1 (IgG1 Mouse)



Expression of IFN $\gamma$ , TNF $\alpha$  and IL-2 in CD4<sup>+</sup> (red) and CD8<sup>+</sup> (blue) T cells upon stimulation with DURActive 1 (PMA/Ionomycin/BrefeldinA).

Size Status Quality Standard Part #

**DURAClone IF T Helper Cell**

25 tests RUO ISO9001/2015 **C04666**

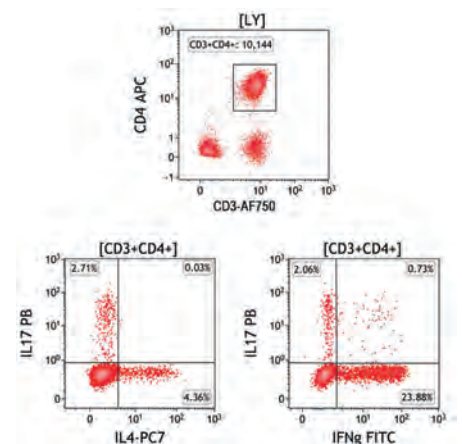
**Detection of Th1/Th2/TH17 signature cytokines in T helper cells**

CD4<sup>+</sup> T cells represent the majority of T lymphocytes in the secondary lymphoid organs. They preferentially recognize HLA Class II and their activation leads to their differentiation into subsets depending on the context of the stimuli. Activated CD4<sup>+</sup> T cell subsets can be identified by their signature cytokines like IL-4, IL-17A and/or IFN- $\gamma$  which are important for their helper cell functions.

The DURAClone IF T Helper Cell tube is a 5-color reagent that allows to identify IFN $\gamma$ -, IL-4- and IL-17A-secreting CD4<sup>+</sup> T helper cell subsets (Th1, Th2, Th17).

It contains 3 compensation Kits, each containing five tubes, each of a single color: CD4-FITC; IL4-PC7; CD4-APC; CD3-AF750; CD4-PB. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
IL-17A	Pacific Blue*	BL168 (IgG1 Mouse)
IFN- $\gamma$	FITC	45.15 (IgG1 Mouse)
IL-4	PC7	MP4-25D2 (IgG1 Rat)
CD4	APC	13B8.2 (IgG1 Mouse)
CD3	Alexa Fluor* 750	UCHT1 (IgG1 Mouse)



Expression of Th1 (IFN $\gamma$ ), Th2 (IL-4) and Th17 (IL-17a) signature cytokine upon stimulation with DURActive 1 (PMA/Ionomycin/BrefeldinA).



Size Status Quality Standard Part #

## DURAClone IF Basophil Activation Tube

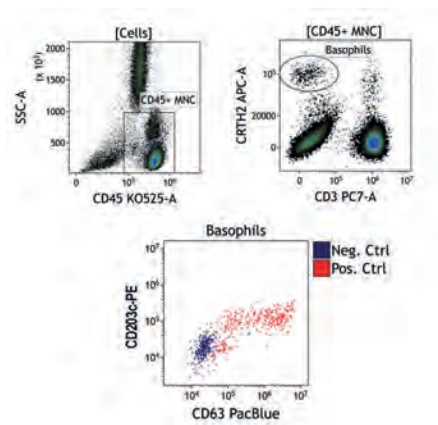
25 tests RUO ISO9001/2015 **C23406**

### Characterization of the activation status of basophils.

Basophils play a key role in immediate hypersensitivity as primary effector cells. These cells express the high affinity receptor for IgE (FcεR1). Allergens induce basophils activation by cross-linking surface IgE leading to release of mediators and expression of activation markers on the basophils surface such as CD63 and CD203c. The analysis of level of expression of CD63 and CD203c antigen allows the characterization of resting and activated basophils in an IgE-dependent response to allergens in sensitized individuals. Interestingly, CD203c and CD63 expression do not always correlate as they seem to implicate 2 different pathways of basophils activation where CD63 will reflect anaphylactic degranulation and CD203c piecemeal degranulation.

The DURAClone IF Basophil Activation tube kit consists of 25 tubes of a dried optimized five-color combination of fluorescent monoclonal antibodies (CD203c-PE, CD3-PC7, CD63-PBE, CD45-KrO, CRTH2-AF647) as well as 5 tubes of a positive control containing the same dried five color cocktail along to an anti-IgE also dried.

Specificity	Fluorochrome	Clone (Isotype)
CD203c	PE	97A6 (IgG1 Mouse)
CD3	PC7	UCHT1 (IgG1 Mouse)
CD294	Alexa Fluor* 647	BM16 (IgG2a Rat)
CD63	Pacific Blue*	CLB-Gran/12 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Overlay of CD63 and CD203c expression in unstimulated (blue) and anti-IgE-stimulated (red) CRTH2posCD3neg basophils.

Size Status Quality Standard Part #

**DURAClone IF Monocyte Activation Tube**

25 tests RUO ISO9001/2015 **C21858**

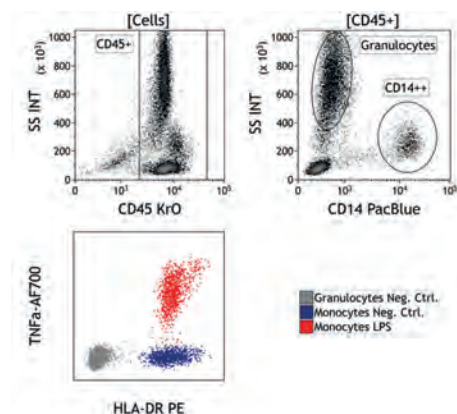
**Assessment of innate immune competency in monocytes**

Monocyte activation in response to infections is initiated when there is interaction between the pattern recognition receptors (PRRs) and pathogen-associated molecular patterns (PAMPs). This activation leads to the differentiation of the monocytes to macrophages or myeloid dendritic cells and an increase in their ability to phagocytose, present antigen and release proinflammatory cytokines. The increased functionality of CD14<sup>+</sup> monocytes can be correlated with increased production of TNF $\alpha$ .

The DURAClone IF Monocyte Activation tube is a 4-color reagent that allows to assess HLA-DR expression and TNF $\alpha$  production in monocytes.

The selected antibody conjugate configuration does not require compensation.

Specificity	Fluorochrome	Clone (Isotype)
CD14	Pacific Blue*	RMO52 (IgG2a Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
HLA-DR	PE	Immu-357 (IgG1 Mouse)
TNF $\alpha$	Alexa Fluor* 700	IPM2 (IgG1 Mouse)



Overlay of TNF $\alpha$  and HLA-DR expression in granulocytes (grey), unstimulated monocytes (blue) and DURActive 3 (LPS/Brefeldin A)-stimulated CD14<sup>+</sup> monocytes.

Size Status Quality Standard Part #

**Ca2+ Activation solution**

100 tests RUO ISO9001/2015 **C23407**

The Activation Solution is a calcium enriched buffer that restores physiological concentration of Ca2<sup>+</sup> in EDTA anti coagulated blood, thus allowing to conduct Ca2<sup>+</sup> dependent functional studies.

EDTA (ethylene-diamine-tetraacetic acid) is a broadly used Ca2<sup>+</sup>-depleting anti-coagulant for whole blood samples that interferes with functional assays assessing/characterizing Ca2<sup>+</sup>-dependent cellular functions. Treatment of EDTA-anti-coagulated blood with the Ca2<sup>+</sup> Activation Solution can enable certain Ca2<sup>+</sup> dependent functional studies. The feasibility of the assay with the Ca2<sup>+</sup> Activation solution should be evaluated for each experimental set-up.

The dry DURAClone RE panels enable sensitive detection of rare abnormal cell populations in blood or bone marrow using carefully optimized and highly dosed antibody combinations.

DURAClone tubes contain a coating of dry ready-to-use antibody panel stable at room temperature (between 20 and 30°C, in a dry place) for worry-free storage and shipping. The complete elimination of antibody pipetting minimizes human error sources and purges the workflow from repetitive actions that are expensive to automate. Reagent inventory management and cumbersome lot-to-lot equivalence testing are reduced to a minimum.

Three dried reagent **single color compensation kits** are provided with each package of 25 assay tubes \*

- Solutions for rare event cytometry.
- Designed and optimized together with key experts.
- Standardized for use in clinical research studies.

\* DURAClone RE CTC does not require compensation and therefore does not include compensation kits. DURAClone RE CTC contains 15 tests per packaging unit.



	Size	Status	Quality Standard	Part #
<b>DURAClone RE ALB Tube</b>	25 tests	RUO	ISO9001/2015	<b>C00163</b>

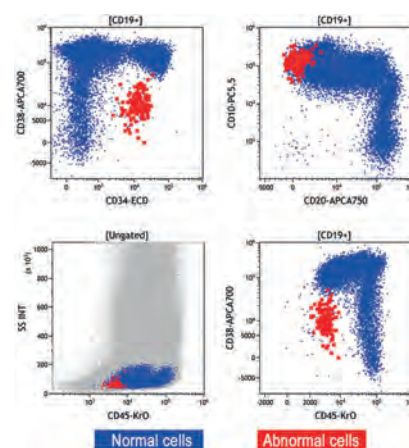
## Detection of immature B cells with anomalous pattern of CD10, CD20, CD34, CD38, CD58.

Discrimination of abnormal from normal B cells during early stages of B cell development in human bone marrow can be realized through precise assessment of B cell surface antigen expression patterns. Normal and abnormal patterns in B cells can be defined by differential densities of CD10, CD19, CD20, CD34, CD38, CD45 and CD58 expression on the surface of B cells.

The DURAClone RE ALB Tube is a 7-color, 7 monoclonal antibody reagent that allows the identification of abnormal precursor B cells in human bone marrow samples post red blood cell lysis.

It contains 3 Compensation Kits, each kit containing seven tubes, each of a single color: CD4-FITC; CD34-ECD; CD10-PC5.5; CD19-PC7; CD38-APC-A700; CD20-APC-A750; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD58	FITC	AICD58 (IgG2a Mouse)
CD34	ECD	581 (IgG1 Mouse)
CD10	PC5.5	ALB1 (IgG1 Mouse)
CD19	PC7	J3-119 (IgG1 Mouse)
CD38	APC-Alexa Fluor* 700	LS198-4-3 (IgG1 Mouse)
CD20	APC-Alexa Fluor* 750	HRC20 (IgG2a Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of normal (blue) and abnormal (red) maturing B cells with deviating expression pattern of CD34, CD38, CD10 and CD20 in bone marrow.

Size Status Quality Standard Part #

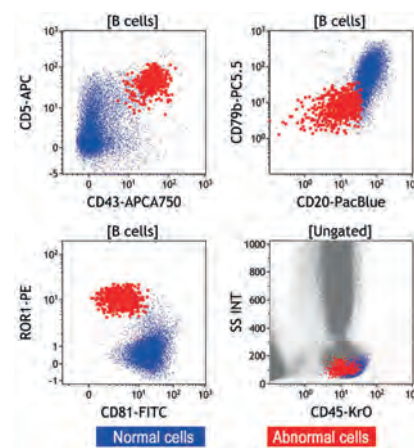
**DURAClone RE CLB Tube**25 tests RUO ISO9001/2015 **B80393****Detection of CD45<sup>+</sup>CD19<sup>+</sup>ROR1<sup>+</sup>CD5<sup>++</sup>CD43<sup>++</sup>CD81<sup>+</sup>CD20<sup>+</sup>CD79b<sup>+</sup> B cells.**

Mature human peripheral B cells (CD45<sup>+</sup>CD19<sup>+</sup> lymphocytes) express high density levels of the antigens CD20, CD79b and CD81 on their surface. In contrast, the antigens CD5, CD43 and ROR1 are expressed at low density levels limited to a small fraction of these cells. Deviation from these patterns involving high expression of CD5, CD43 and ROR1 accompanied by reduced expression densities of CD20, CD79b, and CD81 can be utilized to identify abnormal B cells even at very low frequencies.

The DURAClone RE CLB tube is an 8-color, 8-monoclonal antibody reagent that allows the identification of abnormal B cells in human whole blood samples by eight color flow cytometry.

It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color: CD4-FITC; CD4-PE; CD79b-PC5.5; CD19-PC7; CD4-APC; CD43-APC-A750; CD4-PB; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD20	Pacific Blue*	HRC20 (IgG2a Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
CD81	FITC	JS64 (IgG2a Mouse)
ROR1	PE	2A2 (IgG1 Mouse)
CD79b	PC5.5	CB3-1 (IgG1 Mouse)
CD19	PC7	J3-119 (IgG1 Mouse)
CD5	APC	CLB-T1/1 (IgG1 Mouse)
CD43	APC-Alexa Fluor* 750	DFT1 (IgG1 Mouse)



Identification of normal (blue) and abnormal (red) CD5<sup>+</sup>CD43<sup>+</sup>ROR-1<sup>+</sup> mature B cells with diminished expression of CD20, CD79b and CD81 in whole blood.



Size Status Quality Standard Part #

## DURAClone RE CTC Tube

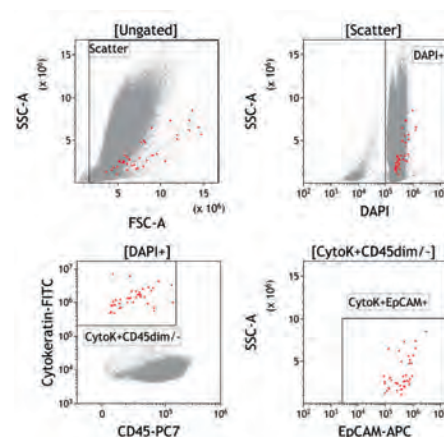
15 tests RUO ISO9001/2015 **C75112** **NEW**

Circulating Tumor Cells (CTCs) are believed to carry valuable information on their solid tumor origin. Before molecular analysis of CTCs can unfold its power, the extremely rare CTCs need to be isolated at highest possible cellular integrity, making cell sorting a promising approach.

The DURAClone RE CTC Tube consists of ready-to-use tubes containing a mix of 3 antibodies conjugated to fluorochrome (Cytokeratin-FITC, CD326 (EpCAM)-APC and CD45-PC7) and a viability dye (DAPI). The DURAClone RE CTC Tube requires the use of the PerFix CTC permeabilization buffer (C75118) to allow detection of circulating tumor cells (CTCs). To allow detection of very rare events such as CTCs, large sample volumes of whole blood from 1 to 5 mL can be processed. The tube can be used for cellular analysis and cell sorting experiments.

The selected antibody conjugate configuration does not require compensation.

Specificity	Fluorochrome	Clone (Isotype)
Cytokeratin	FITC	J1B3 (IgG1 Mouse)
CD45	PC7	J33 (IgG1 Mouse)
CD326	APC	VU1D9 (IgG1 Mouse)
DAPI	-	-



Detection of HT29 cells (red) spiked into whole blood using the DURAClone RE CTC Tube together with PerFix CTC. Please note, the HT29 cell line used as a model for CD45-negative CTCs has a low expression level of CD45.

Size Status Quality Standard Part #

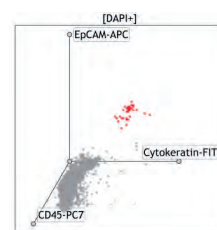
## PerFix CTC

15 tests RUO cGMP **C75118** **NEW**

The PerFix CTC Kit streamlines sensitive detection of very rare cells in whole blood. Together with the DURAClone RE CTC Tube (PN C75112), rare Circulating Tumor Cells (CTCs) can be readily identified which are believed to carry valuable information on their solid tumor origin. PerFix CTC facilitates molecular analysis of single CTCs as it enables cell sorting with high cellular recovery and integrity.

- 1 wash step only, lowers risk of losing rare cells
- Single staining step for intra- and extracellular antigens shortens turn-around time
- Scalable use for whole blood volumes from 1 to 5ml
- Complete solution - no further washing, measuring or fixing buffers needed
- Can be used for phenotypic analysis and sorting with high integral DNA yield for further molecular analysis
- Stored at room temperature

Components
Fixative Buffer : 1 vial
Permeabilizing Buffer : 4 vials
Final 10X Solution : 1 vial



Detection of HT29 cells (red) spiked into whole blood using PerFix CTC together with the DURAClone RE CTC Tube.

Size Status Quality Standard Part #

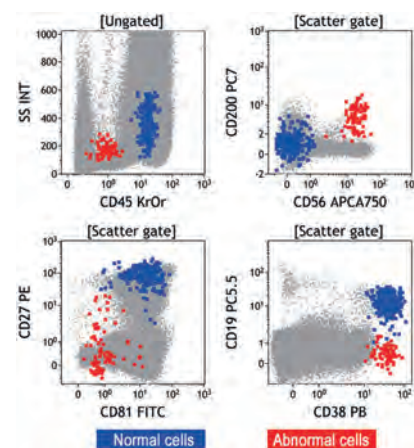
**DURAClone RE PC Tube**25 tests RUO ISO9001/2015 **B80394****Detection of CD45<sup>+</sup>CD38<sup>+</sup>CD138<sup>+</sup>CD56<sup>+</sup>CD200<sup>+</sup>CD19<sup>+</sup>CD27<sup>+</sup>CD81<sup>+</sup> plasma cells.**

Human plasma cells (CD45+CD38+CD138+) express high density levels of the antigens CD19, CD27 and CD81 on their surface. In contrast, the antigens CD56 and CD200 are expressed at low density levels or are even completely absent. Deviation from these patterns involving high expression of CD56 and/or elevated expression of CD200 often accompanied by reduced expression densities or even absence of CD19 and/or CD27 and/or CD81 and/or CD45 can be utilized to identify abnormal plasma cells even at very low frequencies.

The DURAClone RE PC tube is an 8-color, 8-monoclonal antibody reagent that allows the identification of abnormal plasma cells in human bone marrow samples post red blood cell lysis.

It contains 3 Compensation Kits, each kit containing eight tubes, each of a single color: CD4-FITC; CD4-PE; CD19-PC5.5; CD200-PC7; CD4-APC; CD56-APC-A750; CD4-PB; CD8-Krome Orange. All tandem dye-labeled antibodies are lot-matched.

Specificity	Fluorochrome	Clone (Isotype)
CD38	Pacific Blue*	LS198-4-3 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)
CD81	FITC	JS64 (IgG2a Mouse)
CD27	PE	1A4CD27 (IgG1 Mouse)
CD19	PC5.5	J3-119 (IgG1 Mouse)
CD200	PC7	OX-104 (IgG1 Mouse)
CD138	APC	B-A38 (IgG1 Mouse)
CD56	APC-Alexa Fluor* 750	N901 (IgG1 Mouse)



Identification of normal (blue) and abnormal (red) CD56<sup>+</sup>CD200<sup>+</sup> plasma cells with diminished expression of CD19, CD27, CD45 and CD81 in bone marrow, stained after bulk lysis.

The DURAClone SC antibody panels have been developed and tested for the characterization of human stem cells.

The DURAClone SC antibody panels accommodate additional antibodies and DNA dyes in liquid format as well as fixable viability dyes to adapt to specific experimental questions and biological materials.\*

- Pre-formulated 8 color antibody panel
- Unitized dry Beckman Coulter proprietary format
- Expert-proven marker combinations
- 25 tests/package
- Including dye lot-matched compensation kits.

\* Compatibility of the DURAClone SC kits must be verified by the user for each reagent added, performance characteristics may vary depending on the type of instrument



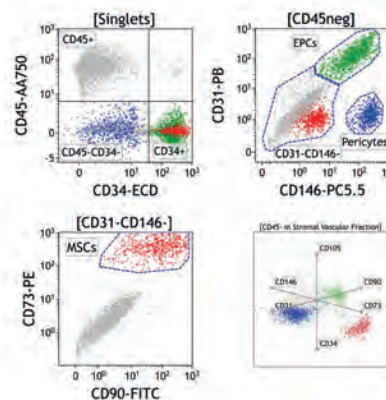
	Size	Status	Quality Standard	Part #
<b>DURAClone SC Mesenchymal</b>	25 tests	RUO	ISO9001/2015	<b>C34369</b>

## Detection of CD73+ CD90+ CD105+/- CD34+/- mesenchymal cells.

Mesenchymal Stem Cells (MSCs) are considered as potent cellular mediators of immunosuppression and tissue remodeling. Unlike other cellular interventions, MSCs can be applied in an allogeneic mode, making them a potent candidate for the development of immunosuppressive cellular products.

While MSCs show negative staining for CD45, CD31, CD14 and CD19, positive staining is observed for CD73 and CD90. Expression of CD34, CD105 and CD146 varies depending on the source materials and the stage of MSC differentiation.

Specificity	Fluorochrome	Clone (Isotype)
CD90	FITC	F15-42-1-5 (IgG1 Mouse)
CD73	PE	AD-2 (IgG1 Mouse)
CD34	ECD	581 (IgG1 Mouse)
CD146	PC5.5	TEA 1/34 (IgG2a Mouse)
CD105	PC7	TEA3/17.1.1 (IgG1 Mouse)
CD45	APC-Alexa Fluor* 750	J33 (IgG1 Mouse)
CD31	Pacific Blue*	5.6E (IgG1 Mouse)
CD14	Krome Orange	RMO52 (IgG2a Mouse)
CD19	Krome Orange	J3-119 (IgG1 Mouse)



Identification of endothelial progenitor cells (green), pericytes (blue) and mesenchymal cells (red) in stromal vascular fraction.

Size Status Quality Standard Part #

**DURAClone SC Hematopoietic**

25 tests

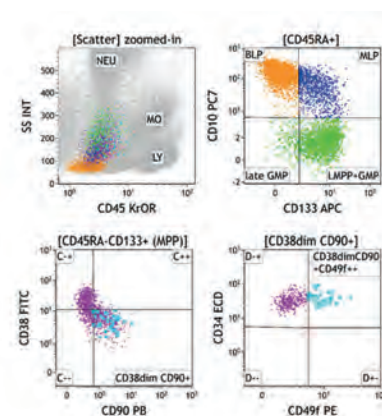
RUO

ISO9001/2015

**C49589****NEW****Identification and characterization of hematopoietic stem and progenitor cells**

Hematopoietic progenitor cells and stem cells (HPCs, HSCs), as mainly defined by a CD45dimCD34+ phenotype, are the principal origin of all blood cells. Multipotent progenitors (MPPs) can be identified by their phenotype of CD45RA<sup>neg</sup>CD133<sup>+</sup>CD38<sup>low</sup>/negCD10<sup>neg</sup>, accompanied by CD90 expression in least differentiated hematopoietic cells. MPPs either differentiate into CD45RA<sup>neg</sup>CD133<sup>neg</sup> progenitor cells of the erythro-myeloid lineage, or become CD45RA<sup>+</sup>CD133<sup>+</sup> lympho-myeloid progenitors and neutrophil and monocyte precursors. Acquisition of CD10 expression predominantly indicates commitment to the B lymphoid lineage. CD49f expression is considered indicative of a long-term repopulating fraction of HSCs.

Specificity	Fluorochrome	Clone (Isotype)
CD38	FITC	T16 (IgG1 Mouse)
CD49f	PE	GoH3 (IgG2a Rat)
CD34	ECD	581 (IgG1 Mouse)
CD10	PC7	ALB1 (IgG1 Mouse)
CD133	APC	W6B3C1 (IgG1 Mouse)
CD45RA	APC-Alexa Fluor* 750	2H4LDH11LDB9 (IgG1 Mouse)
CD90	Pacific Blue*	Thy1/310 (IgG1 Mouse)
CD45	Krome Orange	J33 (IgG1 Mouse)



Identification of different stages of differentiation and commitment (orange, blue, green) in CD45RA<sup>+</sup> human stem cells. CD49f expression is assessed as a putative marker of long term repopulating capacity in CD34<sup>+</sup>CD38<sup>low</sup>CD45RA<sup>neg</sup>CD90<sup>+</sup> stem cells.



## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

The DURActive dry stimulation kits ensure reliability of the first crucial step in cellular activation assays before a precisely coordinated signaling cascade can yield its response.

Functional assays such as induction of cytokine expression typically involve time-critical thawing of frozen stimulation cocktails and liquid handling of resulting small volumes. The DURActive stimulation kits eliminate freeze-storage and error-prone liquid handling as they are dry ready-to-use stimulation mixes in unitized 1-test-format, stable at room temperature.

The DURActive stimulation kits contain optimally dosed physiologically active compounds provided as unitized single tests in 12x75 mm tube format.

- Unitized dry Beckman Coulter proprietary format avoids freezing, thawing, diluting and pipetting
- Pre-formulated mixes containing 2-3 active compounds at expert-proven optimal dose
- Safe handling of dry stimulation mixes due to sub-hazardous amounts of stimulating agents without organic solvents
- Convenient 25 tests / package

Please see also the section on DURAClone IF antibody panels, page 175

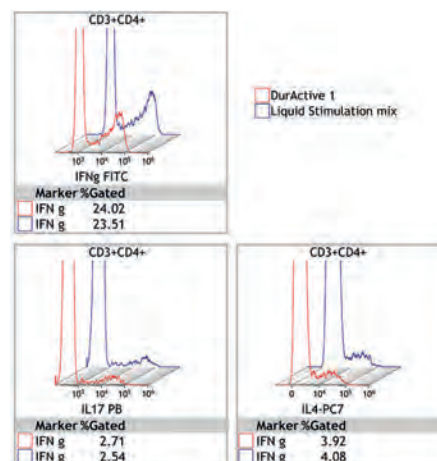
	Size	Status	Quality Standard	Part #
<b>DURActive 1</b>	25 tests	RUO	ISO9001/2015	<b>C11101</b>

## Dry Stimulation Mixes for Immune Functional Assays

Phorbol-Myristate-acetate (PMA) and Ionomycin are broad cellular activators of human leukocytes. Brefeldin A blocks Golgi-apparatus-mediated secretion. A mix of these 3 compounds strongly activates leukocytes and traps newly synthesized biomolecules (e.g. cytokines) inside the cell, hence it can serve e.g. as positive control for leukocyte (ligand-specific) functional assays and as a nonspecific activator in leukocyte functional subtyping experiments.

The DURActive stimulation kits contain optimally dosed physiologically active compounds provided as unitized single tests in 12x75 mm tube format.

Components
Phorbol 12-myristate 13 acetate (PMA)
Ionomycin calcium salt from Streptomyces globatus
Brefeldin A





	Size	Status	Quality Standard	Part #
<b>DURActive 2</b>	25 tests	RUO	ISO9001/2015	<b>C11102</b>

#### Dry Stimulation Mixes for Immune Functional Assays

Phorbol-Myristate-acetate (PMA) and Ionomycin are broad cellular activators of human leukocytes. A mix of these 2 compounds strongly activates leukocytes, hence it can serve e.g.: As a positive control in leukocyte (ligand-specific) functional assays or as a nonspecific activator in leukocyte functional subtyping experiments (e.g. for inducing NET formation and NADPH -oxidase activity in Neutrophils).

The DURActive stimulation kits contain optimally dosed physiologically active compounds provided as unitized single tests in 12x75 mm tube format.

Components
Phorbol 12-myristate 13 acetate (PMA)
Ionomycin calcium salt from Streptomyces conglobatus

	Size	Status	Quality Standard	Part #
<b>DURActive 3</b>	25 tests	RUO	ISO9001/2015	<b>C21857</b>

#### Dry Stimulation Mixes for Immune Functional Assays

Lipopolysaccharide (LPS), a constituent of the membrane of gram-negative bacteria, represents a pathogen-associated molecular pattern (PAMP). Brefeldin A blocks Golgi-apparatus-mediated secretion. A mix of these 2 compounds strongly activates cells of the innate immune system expressing LPS-recognizing surface receptors such as monocytes, and traps newly synthesized biomolecules (e.g., cytokines) inside the cell, indicating the capacity to respond to microbial pathogens.

The DURActive stimulation kits contain optimally dosed physiologically active compounds provided as unitized single tests in 12x75mm tube format.

Components
Lipopolysaccharides from Escherichia coli O127:B8
Brefeldin A

# ANTIBODIES AND KITS

## DURAClone Dry Reagents

Beckman Coulter takes flow cytometry innovation to the next level with the DURAClone line of dry reagents. DURAClone Reagents simplify your workflow and minimize your hands-on time.

DURAClone Dry Reagents come in a format that ensures stability for long periods of time without the need for refrigerated shipping or storage. Beckman Coulter new DURAClone line of dry reagents enables you to simplify and expedite sample preparation and handling while delivering the same performance as liquid reagents.

The DURALyse solution is provided with DURAClone products (except where indicated). It is a lysing solution which results in simultaneous lysis of red blood cells under gentle hypotonic conditions and fixation of the leukocytes resulting in a leukocyte suspension substantially free of red blood cells and suitable for flow cytometric analysis.

### ACCURATE AND REPRODUCIBLE

- Clones have been studied and clustered during an International Workshop on Human Leucocyte Differentiation Antigens (HLDA)
- No titration of antibodies
- No risk of aggregation in dried form

### STABLE AND CONVENIENT

- Stable at room temperature
- Pre-dispensed in unitized form to standardize testing and reduce hands-on time
- Dried down reagents - No refrigeration

	Size	Status	Quality Standard	Part #
<b>DURAClone Tri T-STAT CD3/CD4/CD8 Reagent Kit</b>	50 tests	CE/IVD	98/79/EC	<b>B39492</b>

The DURAClone Tri T-STAT CD3/CD4/CD8 Reagent Kit is a three color immunofluorescence stain for the identification and enumeration of helper/inducer (CD4<sup>+</sup>) cytotoxic/suppressor (CD8<sup>+</sup>) and total T-lymphocytes (CD3<sup>+</sup>) combined with a precise number of fluorescent counting beads for absolute CD3<sup>+</sup>, CD4<sup>+</sup>, CD8<sup>+</sup>, T-Cells counts. This reagent is intended for flow cytometry based analysis in lysed human whole blood samples.

The reagent contains fluorescently labeled antibodies that bind to CD3, CD4 and CD8 antigens found on the surface of circulating leukocytes. The CD3 antigen is a complex of at least six proteins, known collectively as the T-cell receptor (TCR) complex. The antibody used in this reagent binds to the 20 kDa  $\epsilon$  chain of this complex.

The CD4 antigen is a 59 kDa protein which interacts with class II molecules of the major histocompatibility complex and is the primary receptor for the Human Immunodeficiency Virus (HIV). The CD8 antigen is a complex consisting of two disulfide linked subunits. The antibody used in this reagent binds to the 32 kDa  $\alpha$  subunit of the complex. CD8 interacts with class I major histocompatibility complex molecules.

Components	Size	Specificity	Fluorochrome	Clone (Isotype)
CD4-Atto488/CD8-PE/CD3-PE-Dy649	50 tubes	CD4	Atto488	RPA-T4 (IgG1 Mouse)
		CD8	PE	LT8 (IgG Mouse)
		CD3	PE-Dy649	UCHT1 (IgG1 Mouse)
DURALyse Solution	1 x 25 mL	-	-	-

Not available in all geographies. DURAClone Dry Reagents are available for IVD use only in those markets for which they have been registered per applicable regulations.



Size      Status      Quality Standard      Part #

**DURAClone B27 Reagent Kit**50 tests    CE/IVD      98/79/EC\*  
pending IVDR certification      **B36862**

The DURAClone B27 Reagent Kit comprises a two-color, immunofluorescence stain, suitable for detecting the HLA-B27 antigen expression in erythrocyte-lysed, human whole blood samples (for example, a lyse and no wash protocol), using a flow cytometer. This reagent is not intended to be used to determine the HLA-B27 tissue group.

The Human Leukocyte Antigen (HLA) B27 is a Class I surface antigen encoded by the B locus in the major histocompatibility complex (MHC) that presents microbial antigens to T-lymphocytes. The onset of seronegative spondyloarthropathies that include ankylosing spondylitis, Reiter's disease, psoriatic arthritis and inflammatory bowel disease are associated with the expression of HLA-B27 antigen on T-lymphocytes. Screening for HLA-B27 is thus of clinical relevance in conjunction with the symptomatic presentation of the disorder. Micro-lymphotoxicity tests are conventionally used in HLA-typing but are time-consuming and expensive. Flow cytometry has gradually evolved into a faster and reliable method for screening samples for HLA-B27 antigen.

T-lymphocytes selected through gating of the CD3<sup>+</sup> specific population are analyzed for staining by HLA-B27 conjugates. It has been demonstrated that this pre-selection of T-lymphocytes increases the specificity of the test by eliminating the background attributed to other leukocyte populations. Another method of lowering the risk of false-positives is by the addition of an Anti-B7 antibody to the reagent cocktail. The Anti-B7 antibody competes with the Anti-B27 antibody for the B7 antigen and in this manner, suppressing the incidence of cross-reactivity of Anti-B27 antibodies to B7 antigens.

The DURAClone B27 Reagent Kit contains two clones of the Anti-HLA-B27 antibody and an Anti-B7 antibody. The presence of these antibodies improves the specificity of the reagent. The Anti-B7 antibody binds preferentially to the B7 antigen, thus reducing cross-reactivity.

The test result is a direct extrapolation of the fluorescent staining intensity of the HLA-B27 conjugates with respect to a cutoff value.

A protocol, specific to BD Biosciences\* instruments, is detailed in the B27 Reagent Kit IFU (Instruction for Use).

<i>Components</i>	<i>Size</i>	<i>Specificity</i>	<i>Fluorochrome</i>	<i>Clone (Isotype)</i>
CD3-PE-Dy649/HLA-B27-PE/HLA-B7	50 tubes	CD3	PE-Dy649	UCHT1 (IgG1 Mouse)
		HLA-B27	PE	HLA-ABC-m3 (IgG2a Mouse)
		HLA-B27	PE	FD705 (IgG2b Mouse)
		HLA-B7	-	BB7.1 (IgG1 Mouse)
DURALyse Solution	1 x 25 mL	-	-	-

# ANTIBODIES AND KITS

## ClearLLab Antibody Solutions

The ClearLLab reagents are intended for in vitro diagnostic use as a screening panel for identification of various cell populations by immunophenotyping on an FC 500 flow cytometer. These reagents are used as an aid in the differential diagnosis of hematologically abnormal patients having, or suspected of having hematopoietic neoplasia including chronic leukemia, acute leukemia, non-Hodgkin lymphoma, myeloma, myelodysplastic syndrome (MDS), and/or myeloproliferative neoplasms (MPN). The reagents can be used with peripheral whole blood (collected in K2EDTA, ACD or Heparin), bone marrow (collected in K2EDTA, ACD or Heparin) and lymph node specimens for immunophenotyping. The results should be interpreted along with additional clinical and laboratory findings.

These reagents provide qualitative results for the parameters listed below:

- ClearLLab B1: Kappa, Lambda, CD19, CD5, CD45
- ClearLLab B2: CD20, CD10, CD19, CD38, CD45
- ClearLLab M: CD7, CD13, CD34, CD33, CD45
- ClearLLab T1: CD2, CD56, CD7, CD5, CD45
- ClearLLab T2: CD8, CD4, CD3, CD45



- CE marked and FDA cleared: Minimize your lab's validation work.
- Enhanced workflow: No manual antibody cocktail preparation.
- Consensus aligned: Ensures you work according to international guidelines.
- Small kit size: Adapt your inventory to actual demand with the 25 tests/vial.
- Versatile: ClearLLab can be used with peripheral blood, bone marrow and lymph node specimens.
- Identify major cell populations with ClearLLab's 5-combination, 18-marker panels.

A casebook has been designed to present examples of flow cytometric immunophenotyping data and analysis using Beckman Coulter's ClearLLab reagents on the Beckman Coulter FC 500 flow cytometer.






Cases with characteristic findings typical of various lymphoid and myeloid neoplasms are included, as are cases from patients with clinical and/or laboratory findings that suggest an underlying neoplastic process, but in which no immunophenotypic abnormality is identified. Specimen types include peripheral blood, bone marrow, and lymph nodes.

Each case includes a clinical vignette that describes the patient demographics and clinical history, case specific listmode data files for reanalysis by the user of this casebook, ClearLLab-specific analysis protocols to be used with the listmode data, and a report showing the analysis with provided protocols. Each case concludes with an Analysis Notes section that highlights the immunophenotypic findings as well as potential pitfalls.

NOTE: Casebook examples are provided for illustrative purposes only, and not all categories of hematolymphoid neoplasms may be represented, nor are all possible immunophenotypic variants described or demonstrated.

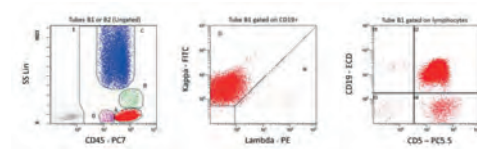
## ClearLLab B1

### k Chain-FITC/λ Chain-PE/CD19-ECD/CD5-PC5.5/CD45-PC7

Combination	Clone	Isotype
 <b>Kappa-FITC</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>Lambda-PE</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>CD19-ECD</b>	J3-119	IgG1 (mouse)
 <b>CD5-PC5.5</b>	BL1a	IgG2a (mouse)
 <b>CD45-PC7</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	98/79/EC	<b>B66809</b>

Examples of dual parameter histograms from a mature B-cell neoplasm sample for ClearLLab B1 and B2 reagents. Note: not all histograms shown.



## ClearLLab B2

### CD20-FITC/CD10-PE/CD19-ECD/CD38-PC5.5/CD45-PC7

	Combination	Clone	Isotype
	<b>CD20-FITC</b>	B9E9	IgG2a (mouse)
	<b>CD10-PE</b>	ALB1	IgG1 (mouse)
	<b>CD19-ECD</b>	J3-119	IgG1 (mouse)
	<b>CD38-PC5.5</b>	LS198-4-3	IgG1 (mouse)
	<b>CD45-PC7</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	98/79/EC	<b>B66810</b>

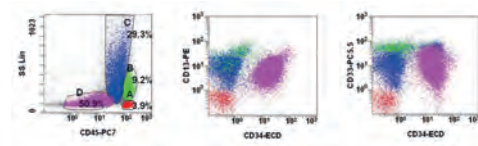
## ClearLLab M

### CD7-FITC/CD13-PE/CD34-ECD/CD33-PC5.5/CD45-PC7

	Combination	Clone	Isotype
	<b>CD7-FITC</b>	8H8.1	IgG2a (mouse)
	<b>CD13-PE</b>	366	IgG1 (mouse)
	<b>CD34-ECD</b>	581	IgG1 (mouse)
	<b>CD33-PC5.5</b>	D3HL60.251	IgG1 (mouse)
	<b>CD45-PC7</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	98/79/EC	<b>B66812</b>

Examples of dual parameter histograms from an acute myeloid leukemia (AML) bone marrow sample for ClearLLab Myeloid reagents. Note: not all histograms shown.



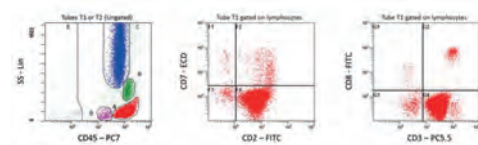
## ClearLLab T1

### CD2-FITC/CD56-PE/CD7-ECD/CD5-PC5.5/CD45-PC7

	Combination	Clone	Isotype
	<b>CD2-FITC</b>	39C1.5	IgG2a (rat)
	<b>CD56-PE</b>	N901	IgG1 (mouse)
	<b>CD7-ECD</b>	8H8.1	IgG2a (mouse)
	<b>CD5-PC5.5</b>	BL1a	IgG2a (mouse)
	<b>CD45-PC7</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	98/79/EC	<b>B66807</b>

Examples of dual parameter histograms from a mature T-cell neoplasm peripheral blood sample for ClearLLab T1 and T2 reagents. Note: not all histograms shown.



## ClearLLab T2

## CD8-FITC/CD4-PE/CD3-PC5.5/CD45-PC7

	<i>Combination</i>	<i>Clone</i>	<i>Isotype</i>
■	<b>CD8-FITC</b>	B9.11	IgG1 (mouse)
■	<b>CD4-PE</b>	SFC112T4D11	IgG1 (mouse)
■	<b>CD3-PC5.5</b>	UCHT1	IgG1 (mouse)
■	<b>CD45-PC7</b>	J33	IgG1 (mouse)

<i>Size</i>	<i>Format</i>	<i>Line</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
25 tests	Liquid	ClearLLab	IVD	98/79/EC	<b>B66808</b>



## NOTES

[illegible]

# ANTIBODIES AND KITS

## ClearLLab LS Antibody Solutions

### ClearLLab LS (Lymphoid Screen)

The ClearLLab LS (Lymphoid Screen) reagent is intended for in vitro diagnostic use as a screening panel for identification of various hematolymphoid cell populations by immunophenotyping on an Navios flow cytometer. The reagent is used as an aid in the differential diagnosis of patients with signs and/or symptoms of hematolymphoid malignancies. The reagent can be used with peripheral whole blood (collected in EDTA, ACD and Heparin), bone marrow specimens (collected in EDTA, ACD and Heparin) and lymph node specimens for immunophenotyping. The results should be interpreted along with additional clinical and laboratory findings. The reagents provide qualitative results for B, T, and NK lineages.



The antigen specificity of the CD45, CD3, CD4, CD8, CD56 and CD5 monoclonal antibodies has been previously established by the First (CD4, CD8 and CD3), Third (CD5 and CD45), and Fourth (CD56) International Workshop for Leukocyte Typing.

The antigen specificity of the CD20, CD19, CD10 and CD34 monoclonal antibodies has been previously established by the Human Leukocyte Differentiation Antigen Workshops.

The application of Kappa and Lambda light chain analysis for immunophenotyping B lymphopoietic malignancies has been previously described in the flow cytometric immunophenotyping for hematologic neoplasms.



This casebook has been designed to present examples of flow cytometric immunophenotyping data and analysis using Beckman Coulter's ClearLLab LS Lymphoid Screen reagent on the Beckman Coulter Navios flow cytometer.







Cases with characteristic findings typical of various lymphoid and myeloid neoplasms are included, as are cases from patients with clinical and/or laboratory findings that suggest an underlying neoplastic process, but in which no immunophenotypic abnormality is identified. Specimen types include peripheral blood, bone marrow, and lymph nodes.

Each case includes a clinical vignette that describes the patient demographics and clinical history, case-specific listmode data files for reanalysis by the user of this casebook, ClearLLab LS-specific analysis protocols to be used with the listmode data, and a report showing the analysis with provided protocols. Each report includes analysis notes that highlight the immunophenotypic findings as well as potential pitfalls.

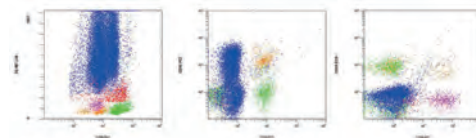
NOTE: Casebook examples are provided for illustrative purposes only, and not all categories of hematolymphoid neoplasms may be represented, nor are all possible immunophenotypic variants described or demonstrated.

### ClearLLab LS (Lymphoid Screen)

k Chain+CD8-FITC/λ Chain+CD4-PE/CD19-ECD/CD56-PC5.5/CD10-PC7/CD34-APC/CD5-APC-A700/CD20-APC-A750/CD3-

Combination	Clone	Isotype
 <b>kappa-FITC</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>CD8-FITC</b>	B9.11	IgG1 (mouse)
 <b>lambda-PE</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>CD4-PE</b>	13B8.2	IgG1 (mouse)
 <b>CD19-ECD</b>	J3-119	IgG1 (mouse)
 <b>CD56-PC5.5</b>	N901	IgG1 (mouse)
 <b>CD10-PC7</b>	ALB1	IgG1 (mouse)
 <b>CD34-APC</b>	581	IgG1 (mouse)
 <b>CD5-AF700</b>	BL1a	IgG2a (mouse)
 <b>CD20-APC-A750</b>	B9E9	IgG2a (mouse)
 <b>CD3-PB</b>	UCHT1	IgG1 (mouse)
 <b>CD45-KrO</b>	J33	IgG1 (mouse)

Normal Bone Marrow . Granulocytes (blue), monocytes (red), lymphocytes (green), myeloblasts (pink) and B-lymphoid progenitors aka "hematogones" (orange).



Size	Format	Line	Status	Quality Standard	Part #
25 tests	Dry	ClearLLab	CE/IVD	98/79/EC*	<b>B74073</b>

98/79/EC\* = pending IVDR

## ClearLLab Compensation Kit

### ClearLLab Compensation Kit

<i>Size</i>	<i>Format</i>	<i>Line</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
5 tests	Dry	ClearLLab	IVD	cGMP	<b>B74074</b>

The ClearLLab Compensation kit consists of ten single-color fluorescent reagent tubes comprised of one monoclonal antibody : CD3 or CD4 or CD8. Each antibody is labelled with one of ten fluorochromes: FITC, PE, ECD, PC5.5, PC7, APC, APC A700, APC A750, Pacific Blue and Krome Orange.

The ClearLLab Compensation Kit may be used with the CYTO-COMP Cell Kit or with normal whole blood to adjust color compensation settings on a Navios flow cytometer with standard filter set and equipped with AutoSetup software, prior to multi-color analysis with ClearLLab LS reagent.

# ANTIBODIES AND KITS

## ClearLLab 10C System

The ClearLLab 10C system is an integrated leukemia and lymphoma\* immunophenotyping solution for lymphoid and myeloid lineages that includes:

- ◆ ClearLLab CE/IVD 10-color panels
- ◆ Fluorescence standardization and color compensation setup kit
- ◆ Process controls
- ◆ Navios/Navios EX flow cytometer
- ◆ Kaluza C analysis software



The ClearLLab 10C Panels are intended for in vitro diagnostic use for qualitative identification of various cell populations by multiparameter immunophenotyping on the Navios and Navios EX flow cytometers. These reagents are used as an aid in the differential diagnosis of hematologically abnormal patients having, or suspected of having, the following hematopoietic neoplasms: chronic leukemia, acute leukemia, non-Hodgkin lymphoma, myeloma, myelodysplastic syndrome (MDS), and/or myeloproliferative neoplasms (MPN). The reagents can be used with peripheral whole blood (collected in K2EDTA, Acid Citrate Dextrose (ACD) or Heparin), bone marrow (collected in K2EDTA, ACD or Heparin) and lymph node specimens. Interpretation of the results should be confirmed by a pathologist or equivalent professional in conjunction with other clinical and laboratory findings.

These reagents provide multiparameter, qualitative results for the surface antigens listed below:

- ClearLLab 10C B Cell Tube: Kappa, Lambda, CD10, CD5, CD200, CD34, CD38, CD20, CD19, CD45
- ClearLLab 10C M1 Cell Tube: CD16, CD7, CD10, CD13, CD64, CD34, CD14, HLA-DR, CD11b, CD45
- ClearLLab 10C T Cell Tube: TCR $\gamma\delta$ , CD4, CD2, CD56, CD5, CD34, CD7, CD8, CD3, CD45
- ClearLLab 10C M2 Cell Tube: CD15, CD123, CD117, CD13, CD33, CD34, CD38, HLA-DR, CD19, CD45



This casebook has been designed to assist in the analysis of flow cytometric immunophenotyping data generated using Beckman Coulter's ClearLLab 10C Panels CE/IVD marked reagent for Leukemia and Lymphoma\* analysis on the Beckman Coulter Navios and Navios EX flow cytometers.

Sample cases with characteristic findings typical of various lymphoid and myeloid neoplasms are included, as are cases from patients with clinical and/or laboratory findings that suggest an underlying neoplastic process, but in which no immunophenotypic abnormality is identified. Specimen types include peripheral whole blood, bone marrow, and lymph nodes.











Each case includes a clinical vignette that describes the patient demographics and clinical history, case-specific listmode data files for reanalysis by the user of this casebook, ClearLLab 10C specific analysis protocols to be used with the listmode data, and a report showing the analysis with provided protocols. Each report includes analysis notes that highlight the immunophenotypic findings as well as potential pitfalls.

NOTE: Casebook examples are provided for illustrative purposes only, and not all categories of hematology lymphoid neoplasms may be represented, nor are all possible immunophenotypic variants described or demonstrated.

\*For Non-Hodgkin's lymphoma only

### ClearLLab 10C B Cell Tube

Kappa-FITC/Lambda-PE/CD10-ECD/CD5-PC5.5/CD200-PC7/CD34-APC/CD38-APC-A700/CD20-APC-A750/CD19-PB/CD45-KrO

Combination	Clone	Isotype
 <b>kappa-FITC</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>lambda-PE</b>	Polyclonal	F(ab') <sub>2</sub> (rabbit)
 <b>CD10-ECD</b>	ALB1	IgG1 (mouse)
 <b>CD5-PC5.5</b>	BL1a	IgG2a (mouse)
 <b>CD200-PC7</b>	OX-104	IgG1 (mouse)
 <b>CD34-APC</b>	581	IgG1 (mouse)
 <b>CD38-APC-A700</b>	LS198-4-3	IgG1 (mouse)
 <b>CD20-APC-A750</b>	B9E9	IgG2a (mouse)
 <b>CD19-PB</b>	J3-119	IgG1 (mouse)
 <b>CD45-KrO</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Dry	ClearLLab	IVD	cGMP	<b>B96805</b>



## ClearLLab 10C T Cell Tube

TCR $\gamma$ / $\delta$ -FITC/CD4-PE/CD2-ECD/CD56-PC5.5/CD5-PC7/CD34-APC/CD7-APC-A700/CD8-APC-A750/CD3-PB/CD45-KrO

	Combination	Clone	Isotype
	<b>TCR PAN <math>\gamma</math>/<math>\delta</math>-FITC</b>	IMMU510	IgG1 (mouse)
	<b>CD4-PE</b>	13B8.2	IgG1 (mouse)
	<b>CD2-ECD</b>	39C1.5	IgG2a (rat)
	<b>CD56-PC5.5</b>	N901	IgG1 (mouse)
	<b>CD5-PC7</b>	BL1a	IgG2a (mouse)
	<b>CD34-APC</b>	581	IgG1 (mouse)
	<b>CD7-APC-A700</b>	8H8.1	IgG2a (mouse)
	<b>CD8-APC-A750</b>	ALB11	IgG1 (mouse)
	<b>CD3-PB</b>	UCHT1	IgG1 (mouse)
	<b>CD45-KrO</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Dry	ClearLLab	IVD	cGMP	<b>B96806</b>

## ClearLLab 10C M1 Cell Tube

CD16-FITC/CD7-PE/CD10-ECD/CD13-PC5.5/CD64-PC7/CD34-APC/CD14-APC-A700/HLA-DR-APC-A750/CD11b-PB/CD45-KrO

	Combination	Clone	Isotype
	<b>CD16-FITC</b>	3G8	IgG1 (mouse)
	<b>CD7-PE</b>	8H8.1	IgG2a (mouse)
	<b>CD10-ECD</b>	ALB1	IgG1 (mouse)
	<b>CD13-PC5.5</b>	Immu103.44	IgG1 (mouse)
	<b>CD64-PC7</b>	22	IgG1 (mouse)
	<b>CD34-APC</b>	581	IgG1 (mouse)
	<b>CD14-APC-A700</b>	RMO52	IgG2a (mouse)
	<b>HLA-DR-APC-A750</b>	Immu-357	IgG1 (mouse)
	<b>CD11b-PB</b>	Bear1	IgG1 (mouse)
	<b>CD45-KrO</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Dry	ClearLLab	IVD	cGMP	<b>B96807</b>

## ClearLLab 10C M2 Cell Tube

CD15-FITC/CD123-PE/CD117-ECD/CD13-PC5.5/CD33-PC7/CD34-APC/CD38-APC-A700/HLA-DR-APC-A750/CD19-PB/CD45-KrO

	Combination	Clone	Isotype
	<b>CD15-FITC</b>	W6D3	IgG1 (mouse)
	<b>CD123-PE</b>	9F5	IgG1 (mouse)
	<b>CD117-ECD</b>	104D2D1	IgG1 (mouse)
	<b>CD13-PC5.5</b>	Immu103.44	IgG1 (mouse)
	<b>CD33-PC7</b>	D3HL60.251	IgG1 (mouse)
	<b>CD34-APC</b>	581	IgG1 (mouse)
	<b>CD38-APC-A700</b>	LS198-4-3	IgG1 (mouse)
	<b>HLA-DR-APC-A750</b>	Immu-357	IgG1 (mouse)
	<b>CD19-PB</b>	J3-119	IgG1 (mouse)
	<b>CD45-KrO</b>	J33	IgG1 (mouse)

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Dry	ClearLLab	IVD	cGMP	<b>B96808</b>

## ClearLLab Control Cells

## ClearLLab Control Cells Normal

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	cGMP	<b>B90002</b>

## ClearLLab Control Cells Abnormal

Size	Format	Line	Status	Quality Standard	Part #
25 tests	Liquid	ClearLLab	IVD	cGMP	<b>B90003</b>

ClearLLab Control Cells Normal and ClearLLab Control Cells Abnormal are stabilized preparations of assayed, lysable whole blood intended as process controls for the verification of the ClearLLab 10C Panels on the Navios and Navios EX flow cytometers.

Parameters assayed include: Kappa, Lambda, CD5, CD200, CD38, CD20, CD19, CD45, TCR $\gamma\delta$ , CD4, CD2, CD56, CD3, CD7, CD8, CD16, CD10, CD13, CD64, CD14, HLA-DR, CD11b, CD15, CD33, CD34, CD117, and CD123

They provide positive cell controls that are processed in the same manner as a whole blood sample. This allows verification of reagent performance and the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples with flow cytometry.



## ClearLLab Compensation Beads

### ClearLLab Compensation Beads

<i>Size</i>	<i>Format</i>	<i>Line</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
100 tests	Liquid	ClearLLab	IVD	cGMP	<b>B99883</b>

ClearLLab Compensation Beads are to be used in conjunction with the ClearLLab Compensation Kit to establish compensation settings on the Navios and Navios EX Flow Cytometer(s) prior to multicolor analysis with the ClearLLab 10C Panels.

ClearLLab Compensation Beads contain two vials of 3.0-3.4  $\mu\text{m}$  beads in suspension at a concentration of approximately  $1 \times 10^7$  particles/mL. The Antibody Capture Negative Beads acts as a negative control and does not bind fluorochrome-conjugated antibodies. The Antibody Capture Positive Beads contains beads coated with an IgG-binding agent that will bind mouse isotypes.

## ClearLLab Compensation Kit

### ClearLLab Compensation Kit

<i>Size</i>	<i>Format</i>	<i>Line</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
5 tests	Dry	ClearLLab	IVD	cGMP	<b>B74074</b>

The ClearLLab Compensation kit consists of ten single-color fluorescent reagent tubes comprised of one monoclonal antibody : CD3 or CD4 or CD8. Each antibody is labelled with one of ten fluorochromes: FITC, PE, ECD, PC5.5, PC7, APC, APC A700, APC A750, Pacific Blue and Krome Orange.

The ClearLLab Compensation Kit may be used with the CYTO-COMP Cell Kit or with normal whole blood to adjust color compensation settings on a Navios flow cytometer with standard filter set and equipped with AutoSetup software, prior to multi-color analysis with ClearLLab LS reagent.

# ANTIBODIES AND KITS

# AQUIOS Reagents

AQUIOS reagents are optimized for peak performance when used with the AQUIOS CL Flow Cytometer. High reliability with no need to mix your monoclonal antibodies.

The AQUIOS reagents use a unique barcode identity for tracking reagent type, lot number, container number, expiration dates, and remaining reagent levels. The reagent consumption is monitored by the system as the samples are processed.

Samples are stained, incubated and lysed onboard in 96-well microplates.



## AQUIOS TETRA





In the clinical management of immune deficiency diseases, accurately counting the absolute cell numbers of leukocyte subsets and measuring the percentage of individual subtypes in blood is critical. The AQUIOS CL flow cytometer in combination with AQUIOS Tetra reagents provides a Single Platform Technology (SPT) for lymphocyte subset analysis and enumeration without the need for counting beads.

AQUIOS Tetra-1 Panel and AQUIOS Tetra-2+ Panel monoclonal antibody reagents are for use on the AQUIOS CL Flow Cytometer with peripheral whole blood for immunophenotyping. These reagents are indicated for use in the immunologic assessment of patients having, or suspected of having, immune deficiency.

### AQUIOS Tetra-1 Panel

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	-	IVD	cGMP	<b>B23533</b>

AQUIOS Tetra-1 Panel Monoclonal Antibody Reagents is a four-color monoclonal antibody cocktail consisting of CD45-FITC/CD4-RD1/CD8-ECD/CD3-PC5, and is used in the identification and enumeration of total CD3+, CD3+CD4+, CD3+CD8+, CD3+CD4+/CD3+CD8+ (ratio only) lymphocyte percentages and absolute counts in peripheral whole blood, plus the CD45+ absolute count and CD45+ Low SS (lymphocytes) percentage and absolute count. The formulation is optimized for high performance on the AQUIOS Flow Cytometer system: no experimenting, mixing or other pre-analysis work is necessary. The AQUIOS Tetra-1 Panel is ready to use. AQUIOS monoclonal reagent vials are cap pierce-able so there is no need to uncap and recap the vials every day. The vials are barcoded, which allows the user to load the vials in any random position. LOAD the vial in the carousel onboard the system, and GO. The system does the rest. High volume laboratories may load multiple vials in the reagent carousel and the system will automatically detect their presence and move from one vial to the next as needed.





Combination	Clone	Isotype
 <b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
 <b>CD4-RD1</b>	SFC12T4D11	IgG1 (mouse)
 <b>CD8-ECD</b>	SFC121Thy2D3	IgG1 (mouse)
 <b>CD3-PC5</b>	UCHT1	IgG1 (mouse)



### AQUIOS Tetra-2+ Panel

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	-	IVD	cGMP	<b>B23534</b>

AQUIOS Tetra-2+ Panel Monoclonal Antibody Reagents is a four-color monoclonal antibody cocktail consisting of CD45-FITC/(CD56 + CD16)-RD1/CD19-ECD/CD3-PC5, and is used in the identification and enumeration of total CD3+, CD3-CD19+, CD3-CD56+ and/or CD16+ lymphocyte percentages and absolute counts in peripheral whole blood, plus the CD45+ absolute count and CD45+ Low SS (lymphocytes) percentage and absolute count. The formulation is optimized for high performance on the AQUIOS Flow Cytometer system: no experimenting, mixing or other pre-analysis work is necessary. The AQUIOS Tetra-2+ Panel is ready to use. AQUIOS monoclonal reagent vials are cap pierce-able so there is no need to uncap and recap the vials every day. The vials are barcoded, which allows the user to load the vials in any random position. LOAD the vial in the carousel onboard the system, and GO. The system does the rest. High volume laboratories may load multiple vials in the reagent carousel and the system will automatically detect their presence and move from one vial to the next as needed.

Combination	Clone	Isotype
 <b>CD45-FITC</b>	B3821F4A	IgG2b (mouse)
 <b>(CD16+CD56)-RD1</b>	3G8+N901	IgG1 (mouse)
 <b>CD19-ECD</b>	J3-119	IgG1 (mouse)
 <b>CD3-PC5</b>	UCHT1	IgG1 (mouse)





**AQUIOS IMMUNO-TROL Cells**

Size	Format	Line	Status	Quality Standard	Part #
2 x 3 mL	Liquid	-	IVD	cGMP	<b>B23535</b>

AQUIOS IMMUNO-TROL Cells are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

**AQUIOS IMMUNO-TROL Low Cells**

Size	Format	Line	Status	Quality Standard	Part #
2 x 3 mL	Liquid	-	IVD	cGMP	<b>B25700</b>

AQUIOS IMMUNO-TROL Low Cells are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

**AQUIOS Lysing Reagent Kit**

Size	Format	Line	Status	Quality Standard	Part #
100 tests	Liquid	-	IVD	cGMP	<b>B23538</b>

AQUIOS Lysing Reagent Kit is used as part of the AQUIOS flow cytometer system. The kit consists of two reagents used by AQUIOS flow cytometers to prepare whole blood samples for analysis of white blood cells.



**AQUIOS Sheath Solution**

Size	Format	Line	Status	Quality Standard	Part #
1 x 10 L	Liquid	-	IVD	cGMP	<b>B25697</b>

AQUIOS Sheath Solution is a non-fluorescent, azide-free balanced electrolyte solution for use on AQUIOS flow cytometers with light scatter and fluorescent applications.

**AQUIOS Cleaning Agent**

Size	Format	Line	Status	Quality Standard	Part #
500 mL	Liquid	-	IVD	cGMP	<b>B25698</b>

AQUIOS Cleaning Agent is a cleaning agent for use on the AQUIOS flow cytometer components that come in contact with blood samples.

**AQUIOS Sodium Hypochlorite Solution**

Size	Format	Line	Status	Quality Standard	Part #
4 x 50 mL	Liquid	-	IVD	cGMP	<b>B23536</b>

AQUIOS Sodium Hypochlorite Solution is a cleaning agent used as part of an AQUIOS flow cytometer system. The solution maintains AQUIOS instruments in optimal condition.

**AQUIOS Deep Well Plate**

Size	Format	Line	Status	Part #
Case of 50		-	nMD	<b>B23502</b>

The AQUIOS Deep Well Plate is a 96-well, conical bottom microplate that optimizes the sample preparation process in the AQUIOS system. The plate is a high quality deep well type, made of polypropylene. Each Deep Well Plate has a unique barcode that is automatically read when placed onboard the system. This enables the system to track sample locations.

## AQUIOS PLG

By focusing on the most essential parameters for monitoring HIV therapies (CD45 vs CD4), AQUIOS PLG addresses cost, complexity, and the time previously required by labor-intensive processes to provide busy laboratories with an affordable, high-performance monitoring solution that also offers standardization and simplicity. Its efficient operation takes CD4 testing to new places.

### AQUIOS PLG Panel

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	-	CE/IVD	98/79/EC*	<b>B42535</b>
8 x 50	Liquid	-	CE/IVD	98/79/EC*	<b>B43610</b>

The AQUIOS PLG Panel is for use on the AQUIOS CL flow cytometer system. The reagent combines two fluorescent-labeled monoclonal antibodies in a single reagent formulation. It is intended "For In Vitro Diagnostic Use" for the identification and enumeration of CD4+ absolute cell count and CD4+ lymphocyte percentage when used in combination with AQUIOS Flow-Count Fluorospheres as a single platform measurement. This reagent is indicated for use in the immunologic assessment of patients having, or suspected of having, immune deficiency.

### AQUIOS Flow-Count Fluorospheres

Size	Format	Line	Status	Quality Standard	Part #
100 tests		-	CE/IVD	98/79/EC*	<b>B43611</b>
4 x 100		-	CE/IVD	98/79/EC*	<b>B52937</b>

AQUIOS Flow-Count Fluorospheres is a fluorescent microsphere reagent for direct determination of leukocyte absolute counts in biological specimens on the AQUIOS CL flow cytometer in combination with AQUIOS Designer Software 2.0 or AQUIOS PLG.

### AQUIOS IMMUNO-TROL Cells (PLG/Tetra)

Size	Format	Line	Status	Quality Standard	Part #
2 x 3 mL	Liquid	-	CE/IVD	98/79/EC*	<b>B45229</b>

AQUIOS IMMUNO-TROL Cells (PLG/Tetra) are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

### AQUIOS IMMUNO-TROL Low Cells (PLG/Tetra)

Size	Format	Line	Status	Quality Standard	Part #
2 x 3 mL	Liquid	-	CE/IVD	98/79/EC*	<b>B45230</b>

AQUIOS IMMUNO-TROL Low Cells (PLG/Tetra) are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

### AQUIOS VersaFix Lysing Reagent

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	-	CE/IVD	98/79/EC*	<b>B43019</b>
8 x 50	Liquid	-	CE/IVD	98/79/EC*	<b>B43020</b>

The AQUIOS VersaFix Lysing Reagent consists of a ready-to-use reagent that lyses red blood cells and fixes white blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells and without damage to white blood cells, allowing flow cytometry analysis on the AQUIOS CL Flow Cytometer in combination with AQUIOS PLG or AQUIOS Designer Software 2.0.

## AQUIOS Designer Software

AQUIOS Designer Software is not available in all countries. Please contact your local Beckman Coulter representative for details. For more information on AQUIOS or AQUIOS Designer Software, please visit [AQUIOSCL.com](http://AQUIOSCL.com)

## AQUIOS Designer Software 2.0

Size	Format	Line	Status	Quality Standard	Part #
1 unit		-	CE/IVD	98/79/EC*	<b>B69476</b>
1 unit		-	-	-	<b>C04893</b>

The AQUIOS Designer Software 2.0 (ADS 2.0) functions as the interface for creating user-defined tests running user-defined components provided by Beckman Coulter that can include up to 5 colors of blue laser excitable dyes for analysis on the AQUIOS CL Flow Cytometer. The user is able to define their own test protocol(s) by adjusting various settings for specimens, sample preparation, reagents, and analysis parameters.

## Flow-Check Fluorospheres

Size	Format	Line	Status	Quality Standard	Part #
3 x 10 mL		-	IVD	cGMP	<b>6605359</b>

Flow-Check Fluorospheres consist of 10  $\mu\text{m}$  (nominal diameter) polystyrene fluorescent microspheres suspended in an aqueous medium containing surfactants and preservatives at  $1 \times 10^6$  fluorospheres/mL (nominal concentration). The fluorescence emission of the dye contained within the fluorospheres ranges from 525 nm to 700 nm when excited at 488 nm. Flow-Check Fluorospheres are used to verify instrument optical alignment and fluidics.

## AQUIOS Flow-Count Fluorospheres

Size	Format	Line	Status	Quality Standard	Part #
100 tests		-	RUO	cGMP	<b>B96656</b>
100 tests		-	CE/IVD	98/79/EC*	<b>B43611</b>
4 x 100		-	CE/IVD	98/79/EC*	<b>B52937</b>

AQUIOS Flow-Count Fluorospheres is a fluorescent microsphere reagent for direct determination of leukocyte absolute counts in biological specimens on the AQUIOS CL flow cytometer in combination with AQUIOS Designer Software 2.0 or AQUIOS PLG.

## AQUIOS VersaFix Lysing Reagent

Size	Format	Line	Status	Quality Standard	Part #
50 tests	Liquid	-	RUO	cGMP	<b>C02059</b>
50 tests	Liquid	-	CE/IVD	98/79/EC*	<b>B43019</b>
8 x 50	Liquid	-	CE/IVD	98/79/EC*	<b>B43020</b>

The AQUIOS VersaFix Lysing Reagent consists of a ready-to-use reagent that lyses red blood cells and fixes white blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells and without damage to white blood cells, allowing flow cytometry analysis on the AQUIOS CL Flow Cytometer in combination with AQUIOS PLG or AQUIOS Designer Software 2.0.



## NOTES

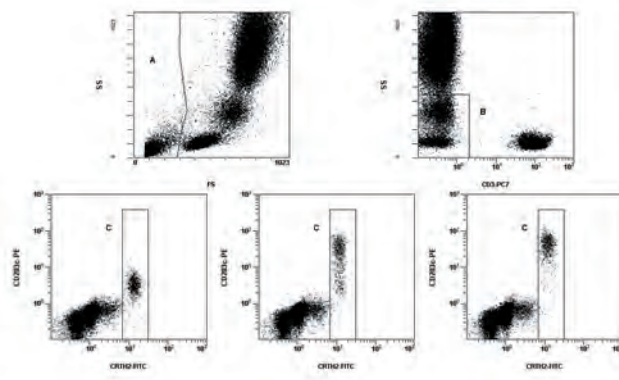
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Allergenicity Kit - Cellular Analysis of Allergy

Allergenicity Kit, Cellular Analysis of Allergy consists of an optimized three-color combination of fluorescent monoclonal antibodies, an activation solution, a positive control for IgE-mediated basophil activation, a stop solution, a lysing solution and a fixative solution.

The Allergenicity Kit is intended for the identification of resting and activated basophils based on an accurate basophils gating tool (utilizing CRTH2<sup>pos</sup>CD203c<sup>pos</sup>CD3<sup>neg</sup>). The analysis is performed on whole blood specimens. The cell population of interest is stained with monoclonal antibodies in the presence of the allergen or controls. Erythrocytes are then lysed prior to flow cytometry analysis. Once T lymphocytes (CD3<sup>+</sup> cells) are excluded, basophils are identified using CRTH2 and CD203c expression. Non-activated and resting basophils are CRTH2<sup>pos</sup>CD203c<sup>dim</sup>CD3<sup>neg</sup>, whereas *in vitro* activated basophils are CRTH2<sup>pos</sup>CD203c<sup>bright</sup>CD3<sup>neg</sup>.

The flow cytometer must be equipped to detect forward scatter, side scatter and three fluorescence channels allowing the analysis of FITC-, PE-, and PC7- conjugated antibodies.



	Size	Status	Part #
<b>Allergenicity Kit</b>	100 tests	CE/IVD	<b>A17116</b>
CRTH2-FITC / CD203c-PE / CD3-PE7	-	1 vial	2 mL
Positive Control		1 vial	0.2 mg
Activation Solution		2 vials	5 mL/vial
Stop Solution		1 vial	10 mL
Lysing Solution		3 vials	100 mL/vial
Fixative Solution		1 vial	10 mL

## Annexin A5 Kits

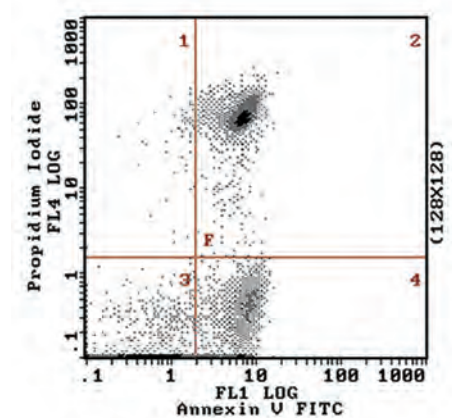
In early apoptosis, cells lose membrane phospholipid asymmetry, whilst the integrity of the cell membrane is maintained. The Annexin-V kits contain a viability dye to evaluate membrane integrity as well as annexin-V to assess membrane asymmetry.

In fact, phosphatidylserine (PS), a negatively charged phospholipid located in the inner surface of the plasma membrane, appears very early in apoptosis at the external cell surface. Annexin V, a calcium and phospholipid binding protein, binds preferentially to PS. The Annexin V kits employ recombinant annexin V labeled with biotin, fluorescein or R-phycoerythrin in together with the viability dyes propidium iodide (PI) or 7-amino actinomycin D (7-AAD).

Apoptotic cells are easily identified utilizing a rapid and simple staining procedure. Fixation of the cells is not necessary.

When cells are double-stained with annexin V and a viability dye, three different cell populations may be observed (see figure below): (i) live cells that do not stain either with annexin V or with the vital dye, (ii) necrotic or late apoptotic cells that stain with both annexin V and the vital dye, and (iii) early apoptotic cells that stain with annexin V only.

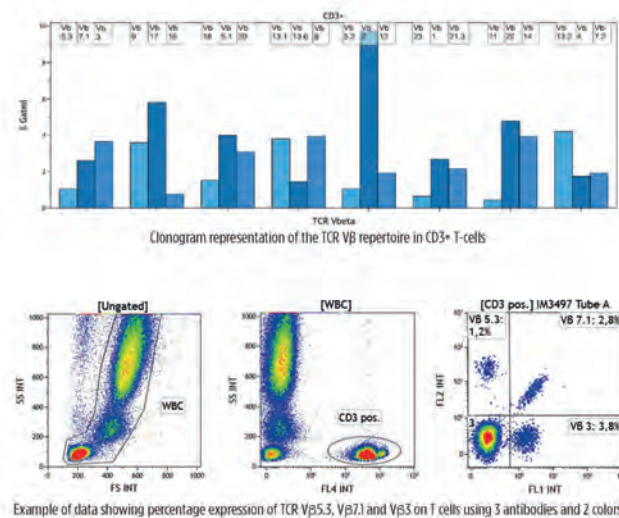
Analysis may be performed on any flow cytometer equipped with a 488nm laser or Arc Lamp depending on the reagent kit chosen. Alternatively, the cells may be examined with a fluorescent microscope or cell imaging system equipped with the appropriate filters.



	Size	Status	Part #
<b>Annexin A5-FITC Kit (20 tests)</b>	20 tests	RUO	<b>IM2375</b>
Annexin A5-FITC		1 vial	0.1 mL
Binding Buffer		1 vial - 10X	1.7 mL
Propidium Iodide		1 vial	Lyophilized
<b>Annexin A5-FITC Kit (200 tests)</b>	200 tests	RUO	<b>IM3546</b>
Annexin A5-FITC		1 vial	0.2 mL
Binding Buffer		6 vials - 10X	1.7 mL
Propidium Iodide		1 vial	Lyophilized
<b>Annexin A5-FITC/7-AAD kit</b>	150 tests	RUO	<b>IM3614</b>
Annexin A5-FITC		1 vial	1.7 mL
Binding Buffer		5 vials - 10X	1.7 mL
7-AAD		1 vial	3 mL

## IOtest Beta Mark TCR Vβ Repertoire Kit

The IOtest Beta Mark Kit is a multi parametric analysis tool designed for quantitative determination of the TCR Vβ repertoire of human T lymphocytes by flow cytometry. Taking advantage of the fact that Vβ specificities may be grouped into mutually exclusive combinations, the detection of 3 Vβ expressions in the same tube is possible with the use of an innovative staining strategy combining three monoclonal antibodies (mAb) with only two fluorophores. A first mAb is FITC-conjugated, a second one is PE-conjugated and a third one is a carefully balanced mixture of a PE- and a FITC-conjugated form. This kit simplifies the TCR Vβ repertoire analysis by reducing the number of tubes to analyze (8 instead of 24) and consequently the time required for obtaining the results. Moreover, this kit makes it possible to study the repertoire on T cell subsets, using additional T-cell markers, such as CD3, CD4, and CD8, conjugated to a third fluorophore. The kit is composed of 8 vials containing mixtures of conjugated TCR Vβ antibodies corresponding to 24 different specificities (about 70% coverage of normal human TCR Vβ repertoire). The test is intended for use on whole blood samples. The kit can be used in a multi parametric environment employing at least three-color flow cytometric analysis. The test is compatible with different methods of red blood cell lysis. The IOtest Beta Mark kit includes a control for PMT setting and fluorescence compensation adjustments.



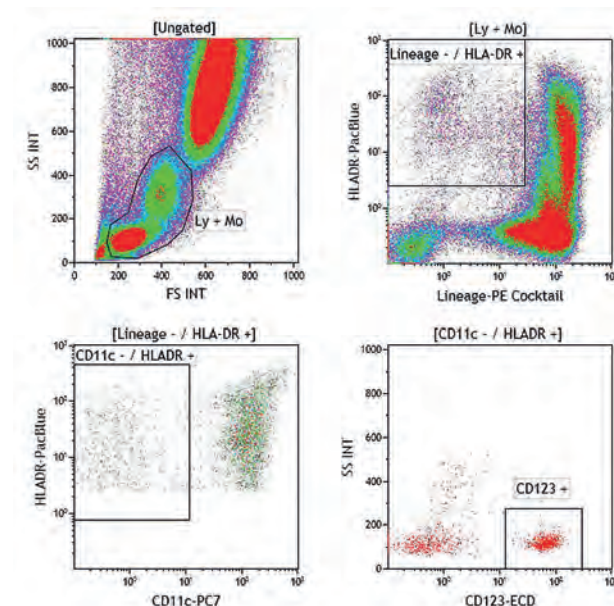
			Size	Status	Part #
<b>β Mark TCR Vβ Repertoire Kit</b>			25 tests	RUO	<b>IM3497</b>
Vial A	Vβ5.3	PE	3D11 (IgG1 Mouse)		
	Vβ7.1	PE+FITC	ZOE (IgG2a Mouse)		
	Vβ3	FITC	CH92 (IgM Mouse)		
Vial B	Vβ9	PE	FIN9 (IgG2a Mouse)		
	Vβ17	PE+FITC	E17.5F3.15.13 (IgG1 Mouse)		
	Vβ16	FITC	TAMAYA1.2 (IgG1 Mouse)		
Vial C	Vβ18	PE	BA62.6 (IgG1 Mouse)		
	Vβ5.1	PE+FITC	IMMU 157 (IgG2a Mouse)		
	Vβ20	FITC	ELL1.4 (IgG2a Mouse)		
Vial D	Vβ13.1	PE	IMMU 222 (IgG2b Mouse)		
	Vβ13.6	PE+FITC	JU74.3 (IgG1 Mouse)		
	Vβ8	FITC	56C5.2 (IgG2a Mouse)		
Vial E	Vβ5.2	PE	36213 (IgG1 Mouse)		
	Vβ2	PE+FITC	MPB2D5 (IgG1 Mouse)		
	Vβ12	FITC	VER2.32.1 (IgG2a Mouse)		
Vial F	Vβ23	PE	AF23 (IgG1 Mouse)		
	Vβ1	PE+FITC	BL37.2 (IgG1 Rat)		
	Vβ21.3	FITC	IG125 (IgG2a Mouse)		
Vial G	Vβ11	PE	C21 (IgG2a Mouse)		
	Vβ22	PE+FITC	IMMU 546 (IgG1 Mouse)		
	Vβ14	FITC	CAS1.1.3 (IgG1 Mouse)		
Vial H	Vβ13.2	PE	H132 (IgG1 Mouse)		
	Vβ4	PE+FITC	WJF24 (IgM Rat)		
	Vβ7.2	FITC	ZIZOU4 (IgG2a Mouse)		



## Lineage-PE Cocktail

The Lineage-PE Cocktail is comprised of PE-conjugated CD3, CD14, CD19, CD20 and CD56 antibodies. It enables the positive staining of five immune cell populations (T and B Lymphocytes, NK cells Monocytes/Macrophages) together, without distinction, in the PE channel using flow cytometry. When combined with fluorescent-labeled antibodies, other than PE, the gating on PE negative cells allows the phenotypic identification of Dendritic cells.

- The CD3 molecule is expressed only on cells of T lineage such as mature T cells and a subset of thymocytes. Approximately 65-75% of lymphocytes in peripheral blood are CD3+, although the percentage in children is lower and is age-related.
- The CD14 molecule is found on cells of myelomonocytic lineage. It is strongly expressed on monocytes, macrophages, and weakly on neutrophils. CD14 is not expressed on B lymphocytes, T lymphocytes, NK cells, red blood cells and platelets.
- The CD19 molecule is expressed on all B cells, including early progenitor B cells. Expression of CD19 persists during all stages of maturation and is lost only upon terminal differentiation to plasma cells. The CD19 molecule is not expressed on T lymphocytes, NK cells, Monocytes and Granulocytes.



- The CD20 molecule is expressed on B lineage cells. Its CD20 expression occurs early in pre-B lymphocyte development, persists throughout B lymphocyte ontogeny and is lost upon ultimate plasma cells differentiation. The CD20 molecule is present on all B lymphocytes whatever the hematopoietic tissue where they are found (peripheral blood, lymph nodes, spleen, tonsil, or bone marrow). CD20 is also expressed, but at low density, on a subset of peripheral blood T lymphocytes.
- The CD56 molecule, known as NCAM (Neural Cell Adhesion Molecule) antigen, is expressed on a subpopulation of peripheral blood large granular lymphocytes and on all cells with natural killer (NK) activity. It is also expressed by a minor subpopulation of CD3+ T cells that mediates reduced cytotoxic activity. It is not found on monocytes, granulocytes, erythrocytes or B lymphocytes.

			Size	Status	Part #
<b>Lineage-PE Cocktail</b>			100 tests	RUO	<b>B29559</b>
	CD3	PE	UCHT1 (IgG1 Mouse)		
	CD14	PE	RMO52 (IgG2a Mouse)		
	CD19	PE	J3-119 (IgG1 Mouse)		
	CD20	PE	HRC20 (IgG2a Mouse)		
	CD56	PE	N901 (IgG1 Mouse)		

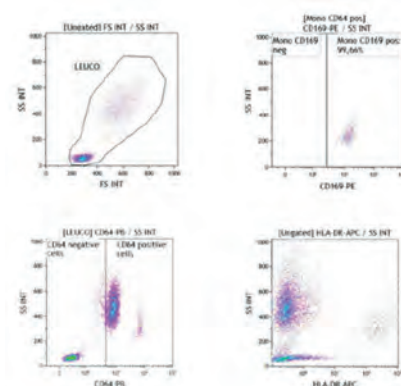
## Myeloid Activation Antibody cocktail

IOtest Myeloid Activation CD169-PE / HLA-DR-APC / CD64-PB Antibody Cocktail provides a reagent to assess the expression level of CD64 on Neutrophils, and HLA-DR and CD169 on Monocytes.

CD169 (or Siglec-1) is a sialoadhesin, a member of the Siglec family (sialic acid binding Immunoglobulin-like Lectins). CD169 is an adhesion receptor present on macrophages, recognizing sialylated glycoproteins and glycolipids of viral membranes. Upon binding by CD169, virus particles are captured and internalized by endocytosis, contributing either to their destruction or improving their transmission and pathogenesis. CD169 is expressed at a very low level on monocytes in non-pathological conditions but in the event of viral infection, activation of the immune system induces the release on pro-inflammatory cytokines, including type I IFN, which strongly induces expression of CD169 on monocytes.

CD64, also known as the high-affinity I receptor to the Crystallizable gamma fragment of immunoglobulins (FCγRI), is distributed on the surface of cells from the myeloid lineage, including macrophages, monocytes, eosinophils and dendritic cells and provide a first line of recognition and defense against microorganisms. CD64 is not expressed on neutrophils in non-pathological conditions, but, in the course of a bacterial infection, the activation of the immune system induces the release of pro-inflammatory cytokines, including IFNγ, which induces the expression of CD64 on neutrophils.

HLA-DR (Human Leucocyte Antigen, coded by the DR locus) is a class II major histocompatibility complex (MHC-Class II) receptor in humans. Expression of class II antigens is limited to antigen-presenting cells, i.e. B lymphocytes, monocytes / macrophages, dendritic and Langerhans skin cells. On T lymphocytes, the HLA-DR antigen is only expressed after activation. The relative expression of HLA-DR on the surface of monocytes is an indicator of immune response to an infectious stimuli.



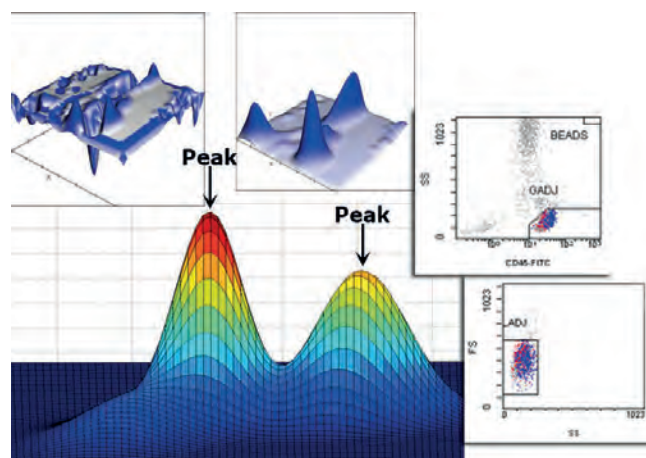
		Size	Status	Part #	
<b>IOtest Myeloid Activation</b>		200 tests	RUO	<b>C63854</b>	<b>NEW</b>
CD169	PE	7-239 (IgG1 Mouse)			
HLA-DR	APC	Immu-357 (IgG1 Mouse)			
CD64	Pacific Blue*	22 (IgG1 Mouse)			

## Navios tetra System

Get the fast answers you need for timely, confident treatment decisions with the proven reliability and precision of Beckman Coulter's Navios tetra system for simultaneous identification and enumeration of T, B and NK lymphocytes in whole blood. Now available for the Navios flow cytometer, Navios tetra system delivers an easy-to-use solution for multicolor flow cytometric analysis of lymphocyte subsets as well as CD4+ and CD8+ T cell subsets ratios.

Navios tetra system's fully automated instrument set-up, easy sample preparation, innovative cluster tracking, and single platform standardization help streamline your workflow. At the same time, the absolute count robustness and on-board quality control tracking helps you make confident treatment decisions.

Fully automated instrument set-up using our Flow Check Pro and Flow Set Pro Fluorospheres provides fast automated instrument set up. Reduce sample processing time with ready-to-use pre-optimized reagents that make sample preparation easy and reduce sample handling with no wash protocol and improve laboratory safety.



Optional Bi-Directional LIS connectivity with Data Innovations Instrument Manager streamlines data entry and reporting.

	Size	Status	Part #
<b>Flow-Check Pro Fluorospheres</b>	3 x 10 mL	IVD	<b>A63493</b>
Fluorospheres (10 µm; 6 µm; 3 µm)		3 vials	10 mL/vial
<b>Flow-Set Pro Fluorospheres</b>	3 x 10 mL	IVD	<b>A63492</b>
Fluorospheres (3 µm)		3 vials	10 mL/vial
<b>QuickCOMP 4 Kit</b>	50 tests	IVD	<b>177017</b>
CD45-FITC	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-PE	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-ECD	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-PC5	J33 (IgG1 Mouse)	1 vial	50 tests
<b>CYTO-COMP Cell Kit</b>	50 tests	IVD	<b>6607023</b>
Cells ( $\geq 3.5 \times 10^6$ cells/vial)		5 vials	Lyophilized
Reconstitution buffer		5 vials	1 mL/vial
<b>IMMUNO-TROL Cells</b>	60 tests	IVD	<b>6607077</b>
Quality Control Product		2 vials	3 mL/vial
<b>IMMUNO-TROL Low Cells</b>	60 tests	IVD	<b>6607098</b>
Quality Control Product		2 vials	3 mL/vial
<b>CYTO-TROL Control Cells</b>	50 tests	IVD	<b>6604248</b>
Cells ( $\geq 3.5 \times 10^6$ cells/vial)		5 vials	Lyophilized
Reconstitution buffer		5 vials	1 mL/vial
<b>CD45-FITC/CD4-PE/CD8-ECD/CD3-PC5</b>	50 tests	IVD	<b>6607013</b>
<b>CD45-FITC/CD56-PE/CD19-ECD/CD3-PC5</b>	50 tests	IVD	<b>6607073</b>
<b>Flow-Count Fluorospheres</b>	200 tests	IVD	<b>7547053</b>
Fluorospheres (10 µm)		1 vial	20 mL/vial
<b>Navios Tetra Software</b>		IVD	<b>775213</b>

## Residual Leukocyte Enumeration

The LeukoSure Enumeration Kit is comprised of a set of reagents used to prepare and enumerate white blood cells in leukoreduced red blood cell and platelet products by flow cytometry. The LeukoSure Enumeration Kit is configured to utilize the sensitivity of flow cytometry to enumerate residual leukocytes at the levels necessary to ensure the quality control of leukoreduced blood.

The enumeration method depends upon mixing a known volume (100  $\mu$ L) of LeukoSure Fluorospheres with an identical volume of sample to be tested. After analysis the absolute count for the specimen is calculated. This represents the absolute number of leukocytes in the specimen.

The specimen is lysed and permeabilized using the LeukoSure Lyse Reagent to eliminate RBCs and prepare the cells for subsequent addition of the LeukoSure Stain Reagent which contains propidium iodide and RNase (enzyme used to remove ribonucleic acid, or RNA). In the absence of RNA, propidium iodide binds only to double stranded deoxyribonucleic acid (DNA) so that nucleated cells in the sample emit fluorescence in proportion to their DNA content. The flow cytometer measures the fluorescence from each stained cell as it passes through the laser beam. Since mature platelets and red blood cells do not contain DNA, the stained cells represent the leukocyte component of the blood.

	Size	Status	Part #
<b>LeukoSure Enumeration Kit</b>	200 tests	IVD	<b>175621</b>
<b>Leuko-Trol Platelet Control Kit</b>	25 tests	IVD	<b>175651</b>
<b>Leuko-Trol RBC Control Kit</b>	25 tests	IVD	<b>175658</b>

## Stem-Kit Reagents

Stem-Kit Reagents is intended for the simultaneous identification and enumeration of CD45+ and dual-positive CD45+ CD34+ cell population percentages and absolute counts in biological specimens by flow cytometry. Biological specimens include fresh normal or mobilized peripheral whole blood, and fresh or thawed apheresis products, cord blood and bone marrow. Cell population measurements may be obtained using either an automated method or a manual method for gating and analysis.

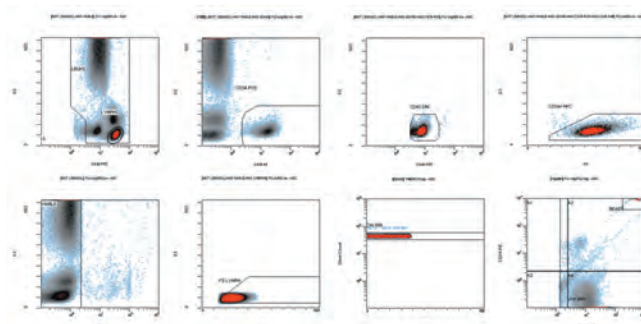
	Size	Status	Part #
<b>HPC Enumeration Kit</b>	50 tests	IVD	<b>IM3630</b>
CD45-FITC/CD34-PE	-	1 vial	
CD45-FITC/IsoClonic Control-PE	-	1 vial	
7-AAD Viability Dye		1 vial	
10X NH <sub>4</sub> Cl Lysing Solution		2 vials	
Stem-Count Fluorospheres		1 vial	



## stemCXP SYSTEM

The stemCXP SYSTEM provides the first fully automated Windows-based device for the simultaneous identification and enumeration of CD45<sup>+</sup> and CD45<sup>+</sup>/CD34<sup>+</sup> hematopoietic progenitor cell (HPC) populations from fresh peripheral or mobilized peripheral whole blood, fresh bone marrow, fresh and thawed apheresis products and cord blood. The stemCXP SYSTEM follows the ISCT (International Society for Cellular Therapy, formerly ISHAGE) guidelines.

The stemCXP Software provides all protocols required for automated standardization of light scatter and fluorescence intensities, and automated adjustment of color compensation settings.

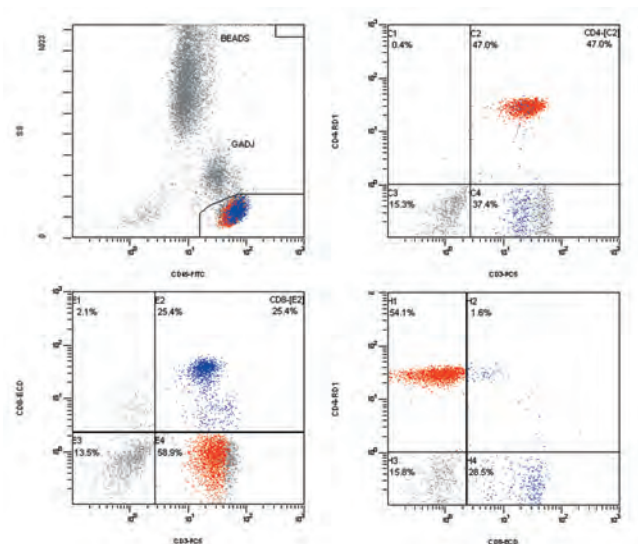


	Size	Status	Part #
<b>Flow-Check Fluorospheres</b>	3 x 10 mL	IVD	<b>6605359</b>
Fluorospheres (10 µm)		3 vials	10 mL/vial
<b>Flow-Set Fluorospheres</b>	3 x 10 mL	IVD	<b>6607007</b>
Fluorospheres (3.6 µm)		3 vials	10 mL/vial
<b>CYTO-COMP Cell Kit</b>	50 tests	IVD	<b>6607023</b>
Cells (≥ 3.5 x 10 <sup>6</sup> cells/vial)		5 vials	Lyophilized
Reconstitution buffer		5 vials	1 mL/vial
<b>QuickCOMP 2 Kit</b>	50 tests	IVD	<b>177018</b>
CD45-FITC		1 vial	50 tests
CD45-PE		1 vial	50 tests
<b>HPC Enumeration Kit</b>	50 tests	IVD	<b>IM3630</b>
CD45-FITC/CD34-PE	-	1 vial	
CD45-FITC/IsoClonic Control-PE	-	1 vial	
7-AAD Viability Dye		1 vial	
10X NH <sub>4</sub> Cl Lysing Solution		2 vials	
Stem-Count Fluorospheres		1 vial	
<b>COULTER Stem-Trol Control Cells</b>	10 tests	IVD	<b>IM3632</b>
HPC Control Cells 0.2 mL/vial		1 vial	10 tests
<b>stemCXP SYSTEM Software</b>	1 unit	IVD	Please call

## tetraCXP SYSTEM

The tetraCXP SYSTEM provides an automated Windows based device for enumeration of CD3<sup>+</sup>CD4<sup>+</sup> and CD3<sup>+</sup>CD8<sup>+</sup> lymphocytes from whole blood in a single tube. This system, exclusively available on the FC 500 flow cytometer with CXP Software, consists of a set of reagents and the tetraCXP Software which features:

- all protocols required for cytometer set-up, standardization and verification for 4-color analysis.
- automated algorithm combines information from 4 parameters (Forward Scatter, Side Scatter and CD45 and CD3) to generate a 3 dimensional lymphocyte gate.
- direct display of total CD3<sup>+</sup>, CD3<sup>+</sup>CD4<sup>+</sup>, CD3<sup>+</sup>CD8<sup>+</sup>, CD19<sup>+</sup> and CD3<sup>+</sup>CD56<sup>+</sup> percentages and absolute counts as well as CD4/CD8 ratio and percentage of total lymphocytes in real time.
- automated cursor placement allows analysis of lymphocyte components.



	Size	Status	Part #
<b>CD45-FITC/CD4-PE/CD8-ECD/CD3-PC5</b>	50 tests	IVD	<b>6607013</b>
<b>CD45-FITC/CD56-PE/CD19-ECD/CD3-PC5</b>	50 tests	IVD	<b>6607073</b>
<b>Flow-Check Fluorospheres</b>	3 x 10 mL	IVD	<b>6605359</b>
Fluorospheres (10 µm)		3 vials	10 mL/vial
<b>Flow-Set Fluorospheres</b>	3 x 10 mL	IVD	<b>6607007</b>
Fluorospheres (3.6 µm)		3 vials	10 mL/vial
<b>CYTO-COMP Cell Kit</b>	50 tests	IVD	<b>6607023</b>
Cells (≥ 3.5 x 10 <sup>6</sup> cells/vial)		5 vials	Lyophilized
Reconstitution buffer		5 vials	1 mL/vial
<b>QuickCOMP 4 Kit</b>	50 tests	IVD	<b>177017</b>
CD45-FITC	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-PE	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-ECD	J33 (IgG1 Mouse)	1 vial	50 tests
CD45-PC5	J33 (IgG1 Mouse)	1 vial	50 tests
<b>Flow-Count Fluorospheres</b>	200 tests	IVD	<b>7547053</b>
Fluorospheres (10 µm)		1 vial	20 mL/vial
<b>CYTO-TROL Control Cells</b>	50 tests	IVD	<b>6604248</b>
Cells (≥ 3.5 x 10 <sup>6</sup> cells/vial)		5 vials	Lyophilized
Reconstitution buffer		5 vials	1 mL/vial
<b>IMMUNO-TROL Cells</b>	60 tests	IVD	<b>6607077</b>
Quality Control Product		2 vials	3 mL/vial
<b>IMMUNO-TROL Low Cells</b>	60 tests	IVD	<b>6607098</b>
Quality Control Product		2 vials	3 mL/vial
<b>tetraCXP SYSTEM Software</b>	-	IVD	Please call

## NOTES

[illegible]

## SUPPORT REAGENTS



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Beckman Coulter provides a complete comprehensive workflow solution for all your flow cytometry needs.

Description	Utility		
Fluorospheres		Emission Range	Excitation
APC (675/633) Set-Up Kit	Daily verification of optical alignment/fluidic stability	675 nm	633 nm
CytoFLEX Daily IR QC Fluorospheres	Used for daily verification of the CytoFLEX flow cytometer's IR (Infrared) laser	> 800 nm	808 nm
CytoFLEX Daily QC Fluorospheres	Used for daily verification of the flow cytometer's optical alignment and fluidics system	410 nm – 800 nm	405, 488 or 635 nm
Flow-Check Fluorospheres	Used for daily verification of a flow cytometer's optical alignment and fluidics system	525 nm – 700 nm	488 nm
Flow-Check Pro Fluorospheres	Used for daily verification of optical alignment and fluidics of flow cytometers configured with multiple laser (Blue, Red, and Violet)	515 nm – 800 nm 640 nm – 800 nm	488 nm 635 nm
Flow-Count Fluorospheres	Used to determine absolute counts on the flow cytometer	525 nm – 700 nm 400 nm – 500 nm	488 nm 405 nm
Flow-Set Fluorospheres	Used for standardization of flow cytometers for analysis of human leukocytes	525 nm – 700 nm	488 nm
Flow-Set Pro Fluorospheres	Used for standardization of flow cytometers configured with Multiple laser (Blue, Red, and Violet), for quantitative analysis of human leukocytes	515 nm – 800 nm 640 nm – 800 nm 400 nm – 500 nm	488 nm 635 nm 405 nm
IMMUNO-BRITE Fluorospheres	Used to monitor instrument linearity. Fluorospheres uniform in size, with varying fluorescent intensities	525 nm – 700 nm	488 nm
PC7 (770/488) Set-Up Kit	Daily verification of optical alignment/fluidic stability	770 nm	488 nm
VersaComp Antibody Capture Beads	Set compensation to account for spectral overlap in multicolor flow cytometry assays		

### Quality Controls

AQUIOS IMMUNO-TROL Cells	Verification of instrument and reagent performance
AQUIOS IMMUNO-TROL Low Cells	Allows verification of instrument and reagent performance
CYTO-COMP Cell Kit	Lyophilized human lymphocytes used in conjunction with Cyto-Comp Reagent kit or the Quick Comp Reagent kits to establish and monitor compensation settings for multicolor analysis
CYTO-COMP Reagent Kit,	Preparation of 4 vials of 2-Color reagents. Used to establish and monitor color compensation settings in conjunction with the Cyto-COMP cell kit, for multicolor analysis
CYTO-TROL Control Cells	Lyophilized human lymphocytes used to assess activity of monoclonal antibodies
IMMUNO-TROL Cells	Whole blood based lysable positive process control for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry
IMMUNO-TROL Low Cells	Whole blood based lysable positive process control for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry, targeted for low level CD4 counts
QuickCOMP 2 Kit	2 single-color reagents comprised of one monoclonal antibody each labeled with FITC or PE conjugated antibodies for adjusting color compensation with flow cytometers performing full matrix compensation
QuickCOMP 4 Kit	4 single-color fluorescent reagents comprised of one monoclonal antibody each labeled with FITC, PE, ECD, or PC5 conjugated antibodies for adjusting color compensation equipped with flow cytometers performing full matrix compensation
Stem-Trol Control Cells	Ready-to-use calibrated control cells providing antibody-to-antigen positive control for absolute counting of CD34 <sup>+</sup> CD45 <sup>dim</sup> cells

## APC (675/633) Set-up Kit

The APC (675/633) Setup Kit is a set of fluorospheres (fluorescent microbeads) used for daily verification of a flow cytometer's optical alignment and fluidic stability and as an aid in standardizing the detectors on a flow cytometer for the quantitative analysis of human leukocytes. Data from each fluorosphere is collected with the 675 nm detector when excited with a 633 nm light source. The kit is comprised of two vials: one vial of Flow-Check 675 fluorospheres and one vial of Flow-Set 675 fluorospheres.

	Size	Presentation
Flow-Set 675 Fluorospheres	1 x 10 mL	1 vial
Flow-Check 675 Fluorospheres	1 x 10 mL	1 vial

Size	Status	Quality Standard	Part #
2 vials	CE/IVD	98/79/EC	<b>737663</b>
2 vials	RUO	cGMP	<b>6607120</b>

## CytoFLEX Daily IR QC Fluorospheres

CytoFLEX Daily IR QC Fluorospheres consists of a suspension of approximately 2.8  $\mu\text{m}$  to 3.4  $\mu\text{m}$  fluorospheres with infrared fluorescence emission greater than 800 nm when excited with an infrared laser at 808 nm. CytoFLEX Daily IR QC Fluorospheres may be used for daily verification of the CytoFLEX flow cytometer's IR (Infrared) laser optical alignment and fluidics system.

	Size	Presentation
Fluorospheres (~3 $\mu\text{m}$ )	10 mL/vial	2 vials

Size	Status	Quality Standard	Part #
2 x 10 mL	RUO	cGMP	<b>C06147</b>



## CytoFLEX Daily QC Fluorospheres

CytoFLEX Daily QC Fluorospheres consists of a suspension of approximately 3  $\mu\text{m}$  fluorospheres with a fluorescence emission of 410 nm to 800 nm when excited at 405 nm, 488 nm or 635 nm. CytoFLEX Daily QC Fluorospheres may be used for daily verification of the CytoFLEX flow cytometer's optical alignment and fluidics system.

	Size	Presentation
Fluorospheres (~3 $\mu\text{m}$ )	2 mL/vial	1 vial

Size	Status	Quality Standard	Part #
1 vial	RUO	cGMP	<b>B53230</b>



## Flow-Check Fluorospheres

Flow-Check Fluorospheres consist of 10  $\mu\text{m}$  (nominal diameter) polystyrene fluorescent microspheres suspended in an aqueous medium containing surfactants and preservatives at  $1 \times 10^6$  fluorospheres/mL (nominal concentration). The fluorescence emission of the dye contained within the fluorospheres ranges from 525 nm to 700 nm when excited at 488 nm. Flow-Check Fluorospheres are used to verify instrument optical alignment and fluidics.

	Size	Presentation
Fluorospheres (10 $\mu\text{m}$ )	10 mL/vial	3 vials

Size	Status	Quality Standard	Part #
3 x 10 mL	IVD	cGMP	<b>6605359</b>

## Flow-Check Pro Fluorospheres

Flow-Check Pro Fluorospheres is a suspension of fluorescent microspheres which may be used for daily verification of optical alignment and fluidics of flow cytometer's configured with multiple lasers (Blue, Red, and Violet). The Fluorosphere suspension consists of a mixture of 10  $\mu\text{m}$  fluorescent microbeads with a fluorescence emission of 515 nm to 800 nm when excited at 488nm, 6  $\mu\text{m}$  fluorospheres with a fluorescence emission of 640 nm to 800 nm when excited at 635 nm, and 3  $\mu\text{m}$  fluorospheres with a fluorescence emission of 400 nm to 500 nm when excited at 405 nm, respectively.

	Size	Presentation
Fluorospheres (10 $\mu\text{m}$ ; 6 $\mu\text{m}$ ; 3 $\mu\text{m}$ )	10 mL/vial	3 vials

Size	Status	Quality Standard	Part #
3 x 10 mL	IVD	cGMP	<b>A63493</b>
3 x 10 mL	RUO	cGMP	<b>A69183</b>



## Flow-Count Fluorospheres

Flow-Count Fluorospheres are a suspension of fluorescent microbeads used to determine absolute counts on the flow cytometer. Each fluorosphere contains a dye which has a fluorescent emission range of 525 nm to 700 nm when excited at 488 nm. They have uniform size and fluorescence intensity, and an assayed concentration allowing a direct determination of absolute counts.

	Size	Presentation
Fluorospheres (10 $\mu\text{m}$ )	20 mL/vial	1 vial

Size	Status	Quality Standard	Part #
200 tests	IVD	cGMP	<b>7547053</b>



## Flow-Set Fluorospheres

Flow-Set Fluorospheres are a suspension of fluorospheres (fluorescent microbeads) used as an aid in optimizing a flow cytometer for quantitative analysis of human leukocytes. Each fluorosphere contains a dye which has a fluorescent emission range of 525 nm to 700 nm when excited at 488 nm. They have a uniform size and fluorescence intensity allowing the standardization of light scatter, fluorescence intensity and optimal hydrodynamic focusing instrument settings.

	Size	Presentation
Fluorospheres (3.6 $\mu\text{m}$ )	10 mL/vial	3 vials

Size	Status	Quality Standard	Part #
3 x 10 mL	IVD	98/79/EC	<b>6607007</b>

## Flow-Set Pro Fluorospheres

Flow-Set Pro Fluorospheres is a suspension of fluorescent microspheres which may be used as an aid in standardizing a flow cytometer configured with multiple lasers (Blue, Red, and Violet). The suspension contains 3  $\mu\text{m}$  (nominal diameter) polystyrene fluorospheres suspended in an aqueous medium containing surfactants and preservatives.

	Size	Presentation
Fluorospheres (3 $\mu\text{m}$ )	10 mL/vial	3 vials

Size	Status	Quality Standard	Part #
3 x 10 mL	IVD	cGMP	<b>A63492</b>
3 x 10 mL	RUO	cGMP	<b>A69184</b>



## IMMUNO-BRITE Fluorospheres

IMMUNO-BRITE Fluorospheres are a suspension of fluorescent microbeads uniform in size with varying fluorescence intensities. The set contains one vial of non-fluorescent fluorospheres and four vials of fluorospheres of increasing intensity. They may be used to monitor instrument linearity.

			Size	Presentation
Fluorospheres			10 mL/vial	5 vials
	Size	Status	Quality Standard	Part #
	5 x 10 mL	IVD	98/79/EC	6603473

## PC7 (770/488) Set-up Kit

The PC7 (770/488) Setup Kit is used for daily verification of a flow cytometer's optical alignment and fluidic stability and as an aid in standardizing the detectors on a flow cytometer for the quantitative analysis of human leukocytes. Data from each fluorosphere is collected with the 770 nm detector when excited with a 488 nm light source. The kit is comprised of two vials: one vial of Flow-Check 770 fluorospheres and one vial of Flow-Set 770 fluorospheres.

		<i>Size</i>	<i>Presentation</i>	
Flow-Set 770 Fluorospheres		1 x 10 mL	1 vial	
Flow-Check 770 Fluorospheres		1 x 10 mL	1 vial	
	<i>Size</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
	2 vials	CE/IVD	98/79/EC	<b>737664</b>
	2 vials	RUO	cGMP	<b>6607121</b>

## VersaComp Antibody Capture Kit

VersaComp Antibody Capture Bead kit provides both positive and negative microspheres that can be used to set compensation for multicolor flow cytometry experiments. The positive population captures conjugates in single color stains and recognizes all mouse and rat isotypes, most hamster isotypes and rabbit polyclonal IgG. The negative population provides fluorescence similar to unstained cells across the different excitation/emission wavelength combinations. This combination can be used to set up compensation to correct for spectral overlap.

			<i>Size</i>	<i>Presentation</i>
Positive microspheres			5 mL	1 vial
Negative microspheres			5 mL	1 vial
	<i>Size</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
	2 vials	LUO	-	<b>B22804</b>





## AQUIOS IMMUNO-TROL Cells

AQUIOS IMMUNO-TROL Cells are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

	Size	Status	Quality Standard	Presentation
	2 x 3 mL	IVD	cGMP	<b>B23535</b>



## AQUIOS IMMUNO-TROL Low Cells

AQUIOS IMMUNO-TROL Low Cells are assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, lysing erythrocytes, and analyzing samples by the AQUIOS CL Flow Cytometer.

	Size	Status	Quality Standard	Presentation
	2 x 3 mL	IVD	cGMP	<b>B25700</b>



## CYTO-COMP Cell Kit

CYTO-COMP Cell Kit is a preparation of lyophilized human lymphocytes and reconstitution buffer used in conjunction with the CYTO-COMP Reagent Kit to establish and monitor color compensation settings for multicolor analysis.

	Size	Status	Quality Standard	Presentation
Cells ( $\geq 3.5 \times 10^6$ cells/vial)	Lyophilized			5 vials
Reconstitution buffer	1 mL/vial			5 vials

	Size	Status	Quality Standard	Part #
	50 tests	IVD	cGMP	<b>6607023</b>



## CYTO-COMP Reagent Kit

CYTO-COMP Reagent Kit is comprised of four sets of two-color reagents used in conjunction with the CYTO-COMP Cell Kit to establish and monitor color compensation settings for multicolor analysis.

	Size	Status	Quality Standard	Presentation
COMP 1 (FITC/PE)	50 tests			1 vial
COMP 2 (PE/ECD)	50 tests			1 vial
COMP 3 (PE/PC5)	50 tests			1 vial
COMP 4 (ECD/PC5)	50 tests			1 vial

	Size	Status	Quality Standard	Part #
	50 tests	IVD	98/79/EC	<b>6607021</b>



## CYTO-TROL Control Cells

CYTO-TROL Control Cells are used to assess the activity of monoclonal antibodies by flow cytometry. They are a lyophilized preparation of human lymphocytes that exhibit surface antigens detectable with monoclonal antibodies. These cells are isolated from peripheral blood and express antigens that are representative of those found on normal lymphocytes. They are compatible with directly-conjugated COULTER CLONE monoclonal antibodies.

	Size	Presentation
Cells ( $\geq 3.5 \times 10^6$ cells/vial)	Lyophilized	5 vials
Reconstitution buffer	1 mL/vial	5 vials



Size	Status	Quality Standard	Part #
50 tests	IVD	cGMP	<b>6604248</b>

## IMMUNO-TROL Cells

IMMUNO-TROL Cells are a positive process control for flow cytometry. They are assayed for lymphocyte, granulocyte and monocyte specific antigens and single platform absolute counts. Light scatter, population distribution, fluorescence intensity, and antigen density mimic those of whole blood.

	Size	Presentation
Quality Control Product	3 mL/vial	2 vials



Size	Status	Quality Standard	Part #
60 tests	IVD	cGMP	<b>6607077</b>

## IMMUNO-TROL Low Cells

IMMUNO-TROL Low Cells provide the same quality and reproducibility as IMMUNO-TROL Cells in a quality control product for low-level CD4 counts. IMMUNO-TROL Low Cells also provide open vial stability of 90 days for decreased waste.

	Size	Presentation
Quality Control Product	3 mL/vial	2 vials



Size	Status	Quality Standard	Part #
60 tests	IVD	cGMP	<b>6607098</b>

## QuickCOMP 2 Kit

The QuickCOMP 2 Kit consists of two single-color fluorescent reagents comprised of one monoclonal antibody each. Each antibody is labeled with either FITC or PE. It may be used with the CYTO-COMP Cell Kit to adjust color compensation settings on a flow cytometer equipped with AutoSetup Software.

	Size	Presentation
CD45-FITC	50 tests	1 vial
CD45-PE	50 tests	1 vial



Size	Status	Quality Standard	Part #
50 tests	IVD	cGMP	<b>177018</b>

### QuickCOMP 4 Kit

The QuickCOMP 4 Kit consists of four single-color fluorescent reagents comprised of one monoclonal antibody each. Each antibody is labeled with one or four fluorochromes: FITC, PE, ECD or PC5. It may be used with the CYTO-COMP Cell Kit to adjust color compensation settings on a flow cytometer equipped with AutoSetup Software.

	Size	Presentation
CD45-FITC	50 tests	1 vial
CD45-PE	50 tests	1 vial
CD45-ECD	50 tests	1 vial
CD45-PC5	50 tests	1 vial

	Size	Status	Quality Standard	Part #
	50 tests	IVD	cGMP	<b>177017</b>



### Stem-Trol Control Cells

COULTER Stem-Trol Control Cells are preserved KG-1a cells, that have been modified and stabilized (patent pending) to express the CD34 Class III epitopes and the CD45 leucocyte common antigen at densities that approximate normal human hematopoietic progenitor cells (HPC). This product is a ready-to-use cell suspension. COULTER Stem-Trol Control Cells provide an antibody-to-antigen positive control for CD34 and CD45 staining in flow cytometry studies. The concentration of this cell suspension is precisely calibrated. Therefore it is also designed as an internal control for absolute count verification procedures in CD34<sup>+</sup> HPC absolute counting process.

	Size	Presentation
HPC Control Cells 0.2 mL/vial	10 tests	1 vial

	Size	Status	Quality Standard	Part #
	10 tests	IVD	cGMP	<b>IM3632</b>



Beckman Coulter provides a complete comprehensive workflow solution for all your flow cytometry needs.

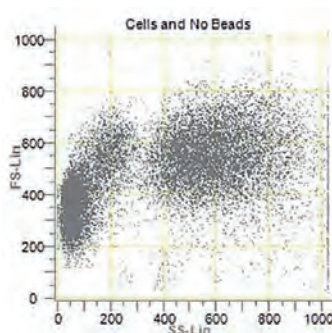
Product	Principle	Sample	Fixation in lysis step	Wash / No-wash	Fixation after lysis	Applications
<b>Lysis without permeabilization</b>						
<b>VersaLys</b>	Enzyme-based erythrocytes lysis	Venous blood, bone marrow	Optional (IOTest3 Fixative Solution)	Can be used both washed and no-wash	Yes	Extracellular staining, Low stringency, Gentle to cells
<b>IOTest 3 Lysing Solution</b>	Ammonium Chloride based erythrocyte lysis	Venous blood, bone Marrow	No	Wash after lysis	Optional (IOTest3 Fixative)	Classical Reference Method for extracellular staining
<b>OptiLys C</b>	Formaldehyde-glycerol-based erythrocytes lysis.	Venous blood, bone marrow	Yes	Designed for no-wash	Yes	Extracellular staining on Beckman Coulter instruments
<b>OptiLys B</b>	Fixation and protection of cells and hypotonic shock to lyse	Venous blood	Yes	Designed for no-wash	Yes	Extracellular staining on Becton-Dickinson instruments (low angle forward scatter)
<b>Whole Blood Lysing Reagents</b>	Amphipathic glycoside based lysis	Venous blood	No	Wash	Yes	Extracellular staining. Optimized for use with COULTER CLONE and CYTO-STAT COULTER CLONE antibodies
<b>IMMUNOPREP</b>	Formic acid-based lysis targeted for immunofluorescence measurements on flow cytometers	Venous blood	Yes	No-wash	Yes	Extracellular staining. Automatisation only Used on Q-PREP, FP1000, Multi-Q-prep and TQ-prep
<b>AQUIOS VersaFix Lysing Reagent</b>	Combination of enzyme-based erythrocyte lysis and cell fixation	Venous blood	Yes	Designed for no-wash	Optional	Lysing of erythrocytes and fixation of white blood cells. Optimized for use with the AQUIOS CL Flow Cytometer
<b>FLEXLys</b>	Formaldehyde-glycerol-based erythrocyte lysis	Venous blood	Yes	Designed for no-wash compatible with wash protocols	Optional	Whole blood processing in 96well shallow or deep well plates
<b>Lysis with permeabilization</b>						
<b>IntraPrep Permeabilization Reagent</b>	Formaldehyde/saponin-based Permeabilization	Venous blood, bone marrow	Yes	Wash	Yes	Classical Reference Method for intracellular staining
<b>PerFix-nc</b>	Low Formaldehyde/Low detergent-based permeabilization.	Venous blood, peripheral blood mononuclear cells, mouse blood, bone marrow	Yes	Optional	Yes	Allows simultaneous staining of both extracellular and intracellular markers No wash procedure providing high resolution.
<b>PerFix EXPOSE</b>	Detection of phospho epitopes by fixation, erythrocyte lysis, and permeabilization.	Venous blood, bone marrow, peripheral blood mononuclear cells	Yes	Wash	Yes	High Stringency reagent. Phospho epitope detection. Allows the simultaneous staining of both extracellular markers, intracellular markers and phospho epitopes.
<b>PerFix CTC</b>	Low Formaldehyde/Low detergent-based permeabilization.	Venous blood	Yes	No-wash - 1 enrichment step by centrifugation	Yes	Identification and isolation of very rare cells by detection of intra- and extracellular antigens
<b>Fixation</b>						
<b>ThromboFix Platelet Stabilizer</b>	Two part liquid preparation containing buffered reagents that when combined in equal volumes is used for the stabilization of platelets.	Venous blood	Yes	Not Applicable	Yes	Preserves platelets in their current state at the time of preparation up to 7 days.
<b>IOTest 3 Fixative Solution</b>	Formaldehyde-based fixative, provided as 10X concentrate.	Venous blood, bone marrow	Yes	Not Applicable	Yes	Optimized to work in combination with IOTest 3 Lysing Solution, VersaLys Lysing Solution and other systems.



## AQUIOS VersaFix Lysing Reagent

The AQUIOS VersaFix Lysing Reagent consists of a ready-to-use reagent that lyses red blood cells and fixes white blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells and without damage to white blood cells, allowing flow cytometry analysis on the AQUIOS CL Flow Cytometer in combination with AQUIOS PLG or AQUIOS Designer Software 2.0.

	Size	Status	Quality Standard	Part #
For the AQUIOS CL Flow Cytometer (1 vial)	50 tests	CE/IVD	98/79/EC* pending IVDR	<b>B43019</b>
For the AQUIOS CL Flow Cytometer (8 vials)	8 x 50 tests	CE/IVD	98/79/EC* pending IVDR	<b>B43020</b>
For the AQUIOS CL Flow Cytometer (1 vial)	50 tests	RUO	cGMP	<b>C02059</b>



AQUIOS VersaFix

## FLEXLyse

For automation-ready whole blood phenotyping

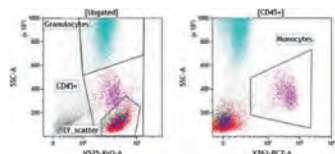
Whole blood assays are our best approximation of physiological conditions in research flow cytometry. Density gradient leukocyte isolation or bulk lysing procedures are common to remove red blood cells, but decompose the native material prior to antigen detection. Common lysing buffers avoid this decomposition and eliminate the gradient-related preanalytical workload, but also increase sample volume beyond the single-well capacity of many plate formats, limiting throughput and automation options.

FLEXLyse processes blood samples at much smaller total volumes than common lysing buffers, enabling automation of whole blood lysis procedures:

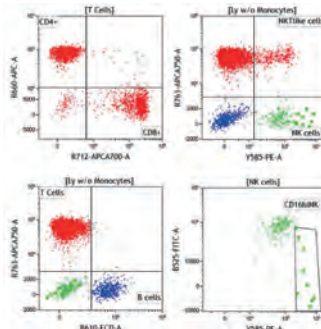
- For 96 shallow well plates with 25 - 40  $\mu$ l of whole blood/well (2000 tests/unit FLEXLyse)
- For 96 deep well plates with 50 - 100  $\mu$ l of whole blood/well (330 tests/unit FLEXLyse)
- Leave prepared samples for up to 48 hrs at room temperature on liquid handler deck\*
- Avoid integration of centrifuges by no-wash protocols\*
- Combine FLEXLyse with dry DURA Innovations reagents for streamlined automated protocols -- no need for reagent cooling!

\*No-wash protocol established with antibody combination according to DURAClone IM Phenotyping Basic (B53309), stained in EDTA-anticoagulated whole blood. For different materials and antibody combinations, users are responsible for verifying prepared sample stability and no-wash compatibility.

	Size	Status	Quality Standard	Part #
FlexLyse	330 - 2000 tests	RUO	cGMP	<b>C54313</b> <b>NEW</b>



Using a Biomek NXS8 liquid handling platform, 40  $\mu$ l of EDTA-anticoagulated normal donor blood was stained in a 96 shallow well plate with a dried antibody combination (LUCID plate) according to DURAClone IM Phenotyping Basic (B53309; CD16-FITC, CD56-PE, CD19-ECD, CD14-PC7, CD4-APC, CD8AF700, CD3APCAF750, CD45-Krome Orange) and lysed with FLEXLyse without further washing. Data was acquired on a CytoFLEX LX cytometer.



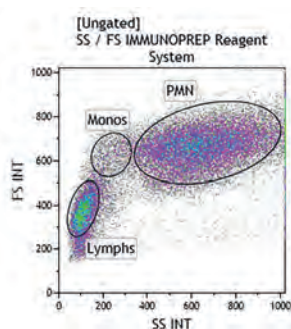
## IMMUNOPREP Reagent System

The IMMUNOPREP Reagent System is a rapid, gentle, no-wash erythrocyte lysing system which maintains leukocyte morphology and cell surface integrity. Cell loss due to washing and centrifugation is eliminated. Since these steps are not required, processing time is substantially reduced. Automation further shortens the preparation time allowing more rapid responses in urgent clinical situations.

The IMMUNOPREP Reagent System is a matched, three-reagent system dedicated to a specific preparation Workstation. The reagent combination consists of:

- IMMUNOPREP A, an erythrocyte lytic agent
- IMMUNOPREP B, a leukocyte stabilizer
- IMMUNOPREP C, a cell membrane fixative

	Size	Status	Quality Standard	Part #
For Q-PREP Workstation	100 tests	IVD	98/79/EC	<b>7546946</b>
For TQ-Prep Workstation	300 tests	IVD	cGMP	<b>7546999</b>

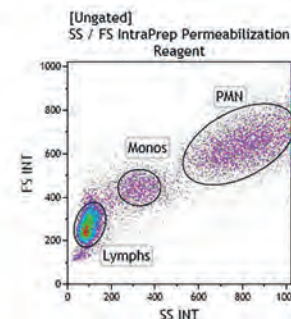


*IMMUNOPREP on venous blood.  
Acquisition with a Navios  
cytometer using CXP acquisition  
software and Kaluza analysis  
software.*

## IntraPrep Permeabilization Reagent

IntraPrep Permeabilization Reagent is a set of two ready-to-use reagents designed for the immunological detection of intracellular leucocyte antigens by flow cytometry. It uses a formaldehyde / saponin-based permeabilization procedure. IntraPrep Permeabilization Reagent can be used for detection of most cytoplasmic and nuclear antigens in whole blood samples. It creates apertures in the membrane without affecting the gross morphology of the cell. The resolution of each cell type on a dual light scatter histogram is well preserved during processing with this reagent system. The standard procedure consists of first, fixing cells with Reagent 1, and second, permeabilizing the white cells and lysing red cells using Reagent 2. The reagent formulation is optimized to minimize non-specific intracellular staining. The IntraPrep Permeabilization Reagent can be used for simultaneous detection of cell surface and cytoplasmic antigens by flow cytometry.

	Size	Status	Quality Standard	Part #
Fixative + Permeabilizer (5 mL + 5 mL)	50 tests	RUO	cGMP	<b>IM2388</b>
Fixative + Permeabilizer (15 mL + 15 mL)	150 tests	RUO	cGMP	<b>IM2389</b>
Fixative + Permeabilizer (5 mL + 5 mL)	50 tests	IVD	cGMP	<b>A07802</b>
Fixative + Permeabilizer (15 mL + 15 mL)	150 tests	IVD	cGMP	<b>A07803</b>

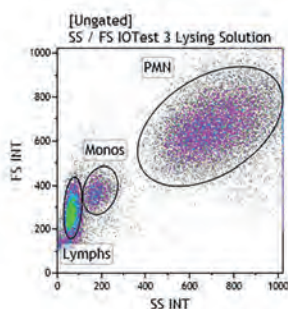


*IntraPrep on venous blood.  
Acquisition with a Navios  
cytometer using CXP acquisition  
software and Kaluza analysis  
software.*

### IOtest 3 Lysing Solution

IOtest3 Lysing Solution is an ammonium chloride-based erythrocyte lysing solution designed for flow cytometry. This reagent is provided as a 10X-concentrated mixture of ammonium chloride, potassium bicarbonate and ethylenediamine tetraacetic acid (EDTA). IOtest3 Lysing Solution allows whole blood or bone marrow specimen preparation by erythrolysis during immunophenotyping procedures. A wash post lysis is required to yield optimal results.

	Size	Status	Quality Standard	Part #
Lysing Solution	100 tests	RUO	cGMP	<b>IM3514</b>
Lysing Solution	100 tests	IVD	cGMP	<b>A07799</b>



*IOtest 3 on venous blood.  
Acquisition with a Navios  
cytometer using CXP acquisition  
software and Kaluza analysis  
software.*

### IOtest 3 Fixative Solution

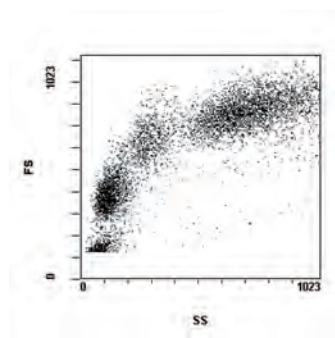
The IOtest3 Fixative Solution allows whole blood or bone marrow specimen preparation by fixing the cell suspension after erythrolysis during immunophenotyping procedures. At least one wash is required between the lysis and the fixation steps. The IOtest3 Fixative Solution is optimized to work in combination with the IOtest3 Lysing Solution. IOtest Fixative Solution is a formaldehyde-based fixative solution designed for flow cytometry. This reagent is provided as a concentrated solution in PBS.

	Size	Status	Quality Standard	Part #
Fixative Solution	100 - 200 tests	RUO	cGMP	<b>IM3515</b>
Fixative Solution	100 - 200 tests	IVD	cGMP	<b>A07800</b>

## OptiLyse No-Wash Lysing Solutions

Both OptiLyse C and B are erythrolytic reagents intended for lysing human red blood cells following direct immunofluorescence staining of whole blood for flow cytometry. OptiLyse C is a ready-to-use lysing solution optimized for use on Beckman Coulter instruments. OptiLyse B is a ready-to-use lysing solution optimized for use on BD Biosciences instruments.

	Size	Status	Quality Standard	Part #
OptiLyse B	250 tests	RUO	cGMP	<b>IM1400</b>
OptiLyse C	200 tests	RUO	cGMP	<b>A11894</b>
OptiLyse C	200 tests	IVD	cGMP	<b>A11895</b>



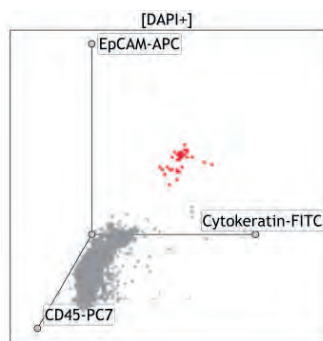
*This dual-parameter light scatter histogram illustrates the expected spatial separation of leucocyte subsets after red blood cell lysis of normal peripheral blood with OptiLyse C.*

## PerFix CTC

The PerFix CTC Kit streamlines sensitive detection of very rare cells in whole blood. Together with the DURAClone RE CTC Tube (PN C75112), rare Circulating Tumor Cells (CTCs) can be readily identified which are believed to carry valuable information on their solid tumor origin. PerFix CTC facilitates molecular analysis of single CTCs as it enables cell sorting with high cellular recovery and integrity.

- 1 wash step only, lowers risk of losing rare cells
- Single staining step for intra- and extracellular antigens shortens turn-around time
- Scalable use for whole blood volumes from 1 to 5ml
- Complete solution - no further washing, measuring or fixing buffers needed
- Can be used for phenotypic analysis and sorting with high integral DNA yield for further molecular analysis
- Stored at room temperature

	Size	Status	Quality Standard	Part #
Fixative Buffer : 1 vial Permeabilizing Buffer : 4 vials Final 10X Solution : 1 vial	15 tests	RUO	cGMP	<b>C75118</b> <b>NEW</b>



*Detection of HT29 cells (red) spiked into whole blood using PerFix CTC together with the DURAClone RE CTC Tube.*



## PerFix EXPOSE

### Fast and Easy Procedure for Cell Signaling

The PerFix EXPOSE kit has been developed to enhance the signal-to-noise ratio of phospho-epitopes staining and to strongly reduce the workload necessary for the sample preparation.

Accurate detection of both intracellular and extracellular epitopes is obtained, while:

- There are only two washing steps through the procedure.
- There is no methanol treatment, and therefore no ice incubation required.
- A unique procedure can be applied to all phospho-epitopes.
- Several surface markers can be added together with the intracellular markers and incubated simultaneously.
- Total duration of the procedure and total workload are similar to current procedures for surface staining (about 1 hour).

	Size	Status	Quality Standard	Part #
Fixative Reagent : 1 vial Permeabilizing Reagent : 3 vials Staining Reagent : 2 vials Final 20X Solution : 1 vial	75 tests	RUO	cGMP	<b>B26976</b>

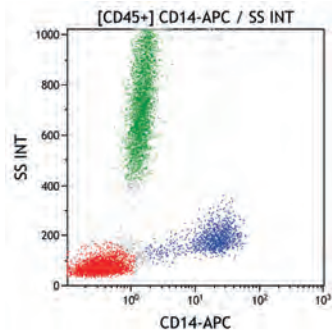


Illustration of leucocyte pattern and surface CD14 staining on a normal whole blood sample, implementing the STRAIGHT procedure (Surface and Phospho-epitopes markers incubated simultaneously).

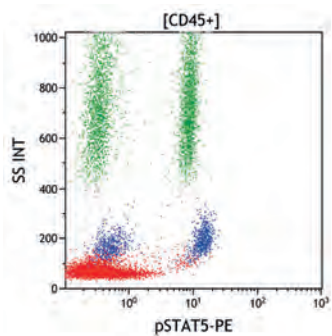


Illustration of leucocyte pattern and Phospho-STAT5 staining on the same normal sample (50/50 mix of GM-CSF activated and non-activated leucocytes), showing a pSTAT5-PE Relative Mean Fluorescence Intensity of more than 30 for both monocytes and granulocytes.

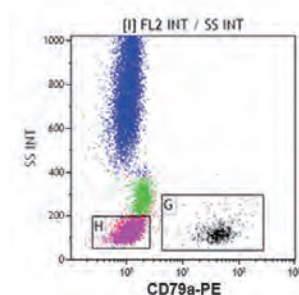
## PerFix-nc

The PerFix-nc Kit (no centrifuge assay Kit) has been developed to enhance the signal-to-noise ratio of intracellular staining and simplify the workload necessary for the sample preparation.

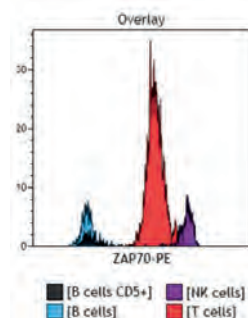
Accurate detection of both intracellular and extracellular epitopes are obtained, while:

- There are no washing steps through the whole STRAIGHT procedure (only a final wash step is described as optional).
- Several surface markers can be added together with the intracellular markers and incubated simultaneously during the permeabilization step.
- Total duration of the procedure and total workload are similar to current procedures for surface staining (e.g. VersaLyse + Fix No Wash), and much shorter than common permeabilization procedures.
- Potential automation of the PerFix-nc STRAIGHT procedure is rendered possible thanks to the removal of the washing steps.

	Size	Status	Quality Standard	Part #
Fixative Buffer : 1 vial Permeabilizing Buffer : 1 vial Final 10X Solution : 1 vial	75 tests	RUO	cGMP	<b>B10825</b>
Fixative Buffer : 2 vials Permeabilizing Buffer : 2 vials Final 10X Solution : 2 vials	150 tests	RUO	cGMP	<b>B10826</b>
Fixative Buffer : 1 vial Permeabilizing Buffer : 1 vial Final 10X Solution : 1 vial	75 tests	IVD	cGMP	<b>B31167</b>
Fixative Buffer : 2 vials Permeabilizing Buffer : 2 vials Final 10X Solution : 2 vials	150 tests	IVD	cGMP	<b>B31168</b>



*Illustration of leucocyte pattern and intracytoplasmic B-Cell staining on normal sample, implementing the PerFix-nc STRAIGHT protocol.*



*ZAP-70-PE staining on lymphocytes of another normal sample, implementing the PerFix-nc + wash protocol.*

## ThromboFix Platelet Stabilizer

The ThromboFix Platelet stabilizer extends the window for platelet analysis by ensuring that the platelets cannot be induced to a new functional state, for example, activated. Platelet Stabilizer preserves platelets in their current state at the time of preparation. The ThromboFix Platelet stabilizer may be used in conjunction with platelet monoclonal antibody-dye conjugates for flow cytometric analysis.

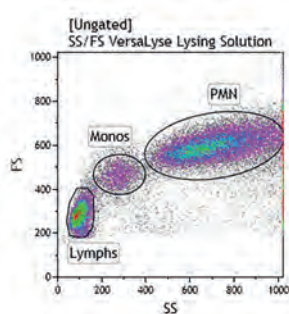
	Size	Status	Quality Standard	Part #
Platelet Stabilizer	100 tests	RUO	cGMP	<b>6607130</b>

## VersaLyse Lysing Solution

VersaLyse Lysing Solution is a reagent used to lyse red blood cells from any biological fluid and, in particular, to lyse erythrocytes from whole blood. VersaLyse is a highly specific, very gentle lysing solution, suitable for applications such as immunophenotyping, cell sorting, activation or cell culture. It is designed for use in flow cytometry and facilitates obtaining highly discriminative scattergrams whatever the type of flow cytometer used. VersaLyse is a versatile reagent which may be used in lyse / wash, wash / lyse and lyse / no-wash procedures with undiluted or diluted samples.

The histograms are dual-parameter light scatter histograms (FS versus SS) of a normal K<sub>3</sub>EDTA anticoagulated blood sample lysed with VersaLyse Lysing Solution (No-wash procedure).

	Size	Status	Quality Standard	Part #
Lysing Solution	100 tests	RUO	cGMP	<b>IM3648</b>
Lysing Solution	100 tests	IVD	cGMP	<b>A09777</b>

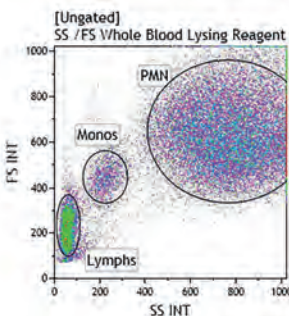


*VersaLyse Wash on venous blood. Acquisition with a Navios cytometer using CXP acquisition software and Kaluza analysis software.*

## Whole Blood Lysing Reagents

The 100-test lysing kit (part number 6602764) provides Immuno-Lyse, Fixative and Stabilizer for preparation of whole blood for analysis by fluorescence microscopy or flow cytometry. The 300-test lysing kit (part number 6603152) provides Immuno-Lyse and Fixative for preparation of whole blood for analysis by flow cytometry only.

	Size	Status	Quality Standard	Part #
Lysing Kit	100 tests	IVD	98/79/EC	<b>6602764</b>
Lysing Kit	300 tests	IVD	cGMP	<b>6603152</b>

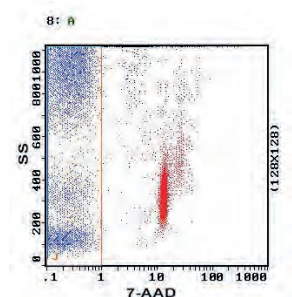


*Whole Blood on venous blood. Acquisition with a Navios cytometer using CXP acquisition software and Kaluza analysis software.*

Description	Utility
7-AAD Viability Dye	Ready-to-use reagent allowing discrimination of viable from non-viable cells.
DAPI Viability Dye	Blue fluorescent nucleic acid stain that binds to double stranded DNA and appears to associate with AT clusters in the minor groove of the DNA molecule.
DRAQ7 Far-Red Fluorescent Live-Cell Impermeant DNA Dye	Membrane impermeant fluorescent dye for the rapid and convenient staining of the dsDNA/nuclei of cells, tissues and organisms including dead, permeabilized or fixed mammalian cells.
ViaKrome Fixable Viability Dyes	Fixable dyes for discriminating viable from non-viable cells, not susceptible to hydrolysis like all other fixable viability dyes

## 7-AAD Viability Dye

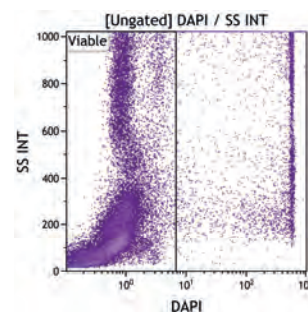
7-AAD Viability Dye is a ready-to-use reagent allowing discrimination of viable from non-viable cells using flow cytometry. It is composed of 7-Amino-Actinomycin D (7-AAD) which intercalates between cytosine and guanine bases of the DNA. The maximum absorption of the 7-AAD / DNA complex is situated in the green spectral region, compatible with argon laser equipped-cytometer (excitation wavelength of 488 nm). The deep red fluorescence emission of 7-AAD (635 to 675 nm) makes the use of this probe easier in combination with fluorescein isothiocyanate (FITC) and phycoerythrin (PE) conjugated antibodies because, in contrast to propidium iodide (PI), the 7-AAD / DNA complex shows lower spectral overlap with FITC and PE.



Size	Presentation	Status	Quality Standard	Part #
150 tests	Liquid, 1 vial	IVD	cGMP	<b>A07704</b>
150 tests	Liquid, 1 vial	RUO	cGMP	<b>IM3422</b>
200 tests	Liquid, 1 vial	RUO	cGMP	<b>B88526</b>

## DAPI

4',6-diamidino-2-phenylindole (DAPI) is a blue fluorescent nucleic acid stain that binds to double stranded DNA and appears to associate with AT clusters in the minor groove of the DNA molecule. DAPI undergoes approximately 20-fold enhancement of fluorescence when associated with DNA, having an excitation maximum of 358 nm and an emission maximum of 461 nm. The spectral properties of DAPI make it very suitable for detecting viability on a flow cytometer equipped with an ultraviolet or a violet laser. DAPI is an impermeant DNA dye; it is largely excluded from live cells by competent plasma membranes, but can enter a compromised membrane where the dye can interact with DNA in the cell. Under recommended conditions, dead cells produce a bright fluorescent signal when excited with a violet laser and detected in the wavelength range of 425-475 nm. It can be readily used with dyes excited by other laser lines. Apoptotic, necrotic cells and / or damaged cells are source of interference in the analysis of viable cells by flow cytometry. Non-viable cells can be evaluated and discriminated following DAPI positive labeling when viable cells remain unstained (negative).

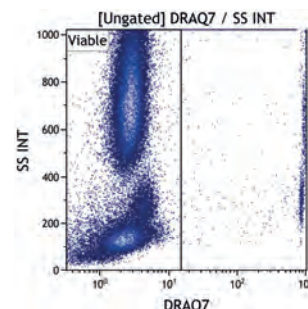


Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	LUO	-	<b>B30437</b>



## DRAQ7 dye

DRAQ7 is a novel far-red emitting viability dye (e.g. 725nm/20nm bandpass) that can be used as a membrane impermeant fluorescent dye for the rapid and convenient staining of the dsDNA/nuclei of cells, tissues and organisms including dead, permeabilized or fixed mammalian cells with minimal RNA-associated fluorescence. It does not enter intact live cells, reducing the potential for false-positives, and making it an ideal reporter for real-time viability/toxicity studies by HCS imaging, flow or microplate-based cytometry.



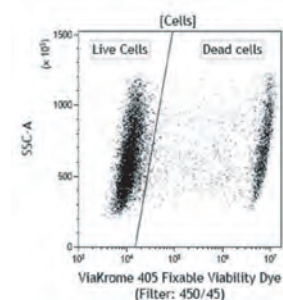
Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	RUO	cGMP	<b>B25595</b>

## ViaKrome 405 Fixable Viability Dye

The ViaKrome 405 Fixable Viability Dye is a thiol-reactive fluorescent dye that covalently binds free thiol present on cellular proteins at a neutral pH. Live cells, impermeable to the ViaKrome 405 Fixable Viability Dye, will be weakly stained by the covalent binding of proteins expressed on the cell surface while cells whose membranes have lost structural integrity, will be strongly stained by the covalent binding of intracellular and membrane expressed proteins. The reactive groups are stable in aqueous solutions, thus the ViaKrome 405 Fixable Viability Dye does not require DMSO for reconstitution.

Excitation	MaxEmission Max	Suggested Bandpass
402 nm	425 nm	450/45

Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	RUO	cGMP	<b>C36614</b>

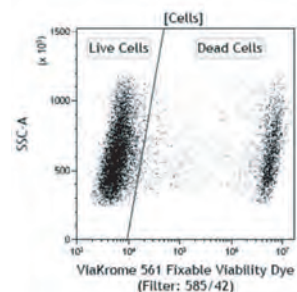


## ViaKrome 561 Fixable Viability Dye

The ViaKrome 561 Fixable Viability Dye is a thiol-reactive fluorescent dye that covalently binds free thiol present on cellular proteins at a neutral pH. Live cells, impermeable to the ViaKrome 561 Fixable Viability Dye, will be weakly stained by the covalent binding of proteins expressed on the cell surface while cells whose membranes have lost structural integrity, will be strongly stained by the covalent binding of intracellular and membrane expressed proteins. The reactive groups are stable in aqueous solutions, thus the ViaKrome 561 Fixable Viability Dye does not require DMSO for reconstitution.

Excitation	MaxEmission Max	Suggested Bandpass
555 nm	565 nm	585/42

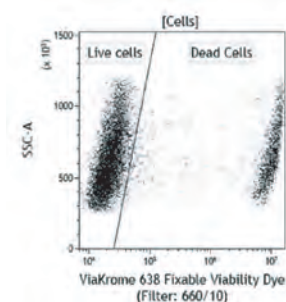
Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	RUO	cGMP	<b>C36620</b>



## ViaKrome 638 Fixable Viability Dye

The ViaKrome 638 Fixable Viability Dye is a thiol-reactive fluorescent dye that covalently binds free thiol present on cellular proteins at a neutral pH. Live cells, impermeable to the ViaKrome 638 Fixable Viability Dye, will be weakly stained by the covalent binding of proteins expressed on the cell surface while cells whose membranes have lost structural integrity, will be strongly stained by the covalent binding of intracellular and membrane expressed proteins. The reactive groups are stable in aqueous solutions, thus the ViaKrome 638 Fixable Viability Dye does not require DMSO for reconstitution.

Excitation 638 nm	MaxEmission Max 655 nm	Suggested Bandpass 660/10
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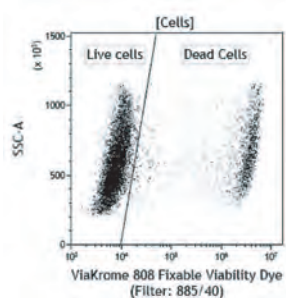


Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	RUO	cGMP	<b>C36624</b>

## ViaKrome 808 Fixable Viability Dye

The ViaKrome 808 Fixable Viability Dye is a thiol-reactive fluorescent dye that covalently binds free thiol present on cellular proteins at a neutral pH. Live cells, impermeable to the ViaKrome 808 Fixable Viability Dye, will be weakly stained by the covalent binding of proteins expressed on the cell surface while cells whose membranes have lost structural integrity, will be strongly stained by the covalent binding of intracellular and membrane expressed proteins. The reactive groups are stable in aqueous solutions, thus the ViaKrome 808 Fixable Viability Dye does not require DMSO for reconstitution.

Excitation 854 nm	MaxEmission Max 878 nm	Suggested Bandpass 885/40
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Size	Presentation	Status	Quality Standard	Part #
200 tests	Liquid, 1 vial	RUO	cGMP	<b>C36628</b>

## NOTES

[illegible]

## Activation Solution

## Ca2+ Activation solution

EDTA (ethylene-diamine-tetraacetic acid) is a broadly used Ca2+-depleting anti-coagulant for whole blood samples that interferes with functional assays assessing/characterizing Ca2+-dependent cellular functions. Treatment of EDTA-anti-coagulated blood with the Ca2+ Activation Solution can enable certain Ca2+ dependent functional studies. The feasibility of the assay with the Ca2+ Activation solution should be evaluated for each experimental set-up.

Size	Format	Status	Quality Standard	Part #
100 tests	Liquid	RUO	ISO9001/2015	<b>C23407</b>

## Buffer

## PBS Buffer

This package contains 15 foil-wrapped packets of PBS Buffer reagent. Each package is brought up to a 500 mL volume with distilled water to yield a 0.01 M potassium phosphate, 0.15 M sodium chloride at a pH of  $7.2 \pm 0.2$ .

Size	Format	Status	Quality Standard	Part #
15 packets	Powder	LUO	-	<b>6603369</b>

## SuperNova Staining Buffer

NEW

The SuperNova Staining Buffer has been designed to avoid non-specific interactions between SuperNova antibody conjugates when they are mixed in a cocktail for a flow cytometry experiment. The SuperNova Staining Buffer is only necessary when there is more than one SuperNova antibody conjugate in the cocktail. Abnormal stainings can occur in case of absence or misuse of the SuperNova Staining Buffer (data can appear under-compensated). The SuperNova Staining Buffer is compatible with the use of other fluorochrome antibody conjugates, with a surface or intracellular procedure.

Size	Format	Status	Quality Standard	Part #
100 tests	Liquid	RUO	cGMP	<b>C76556</b>

## Cleaning Agent

## AQUIOS Cleaning Agent

AQUIOS Cleaning Agent is a cleaning agent for use on the AQUIOS flow cytometer components that come in contact with blood samples.

Size	Format	Status	Quality Standard	Part #
500 mL	Liquid	IVD	cGMP	<b>B25698</b>

## AQUIOS Sodium Hypochlorite Solution

AQUIOS Sodium Hypochlorite Solution is a cleaning agent used as part of an AQUIOS flow cytometer system. The solution maintains AQUIOS instruments in optimal condition.

Size	Format	Status	Quality Standard	Part #
4 x 50 mL	Liquid	IVD	cGMP	<b>B23536</b>

## Contrad 70 Cleaning Solution

This cleaning solution is for use on flow cytometer components. This rinse-free, disposable solution cleans glass, plastic, ceramic, and metals by soaking, manual scrubbing, or ultrasonic cleaning.

Size	Format	Status	Quality Standard	Part #
1 L	Liquid	nMD	-	<b>81911</b>

## COULTER CLENZ

COULTER CLENZ Cleaning Agent is an all-purpose cleaning reagent. It contains agents that strip away protein build-up and lysed red blood cells in instrument fluidics. It should be used routinely as part of regular instrument maintenance, such as shutdown. Additionally, it should be included in a schedule of routine preventive maintenance procedures designed to maintain high performance.

Size	Format	Status	Quality Standard	Part #
1 x 5 L	Liquid	CE/IVD	98/79/EC* pending IVDR certification	<b>8448222</b>
1 L	Liquid	CE/IVD	98/79/EC* pending IVDR certification	<b>8448188</b>

## EMnetik PCR Cleanup Kit

NEW

Size	Format	Status	Quality Standard	Part #
500 preps		nMD	-	<b>C68442</b>

## Flow-Clean Cleaning Agent

For use as a cleaning agent for flow cytometer components that come in contact with blood samples.

Size	Format	Status	Quality Standard	Part #
500 mL	Liquid	IVD	cGMP	<b>A64669</b>



## Diluent

## ISOTON II

The ISOTON II diluent is a filtered, phosphate-buffered saline solution specifically formulated for use in flow cytometers. This isotonic fluid is carefully manufactured for low particulate and fluorescence backgrounds to ensure superior signal to noise ratio measurements.

Size	Format	Status	Quality Standard	Part #
1 x 20 L	Liquid	LUO	-	<b>8448011</b>

## Lysing Reagent

## AQUIOS Lysing Reagent Kit

AQUIOS Lysing Reagent Kit is used as part of the AQUIOS flow cytometer system. The kit consists of two reagents used by AQUIOS flow cytometers to prepare whole blood samples for analysis of white blood cells.

Size	Format	Status	Quality Standard	Part #
100 tests	Liquid	IVD	cGMP	<b>B23538</b>

## Sheath Fluid

## AQUIOS Sheath Solution

AQUIOS Sheath Solution is a non-fluorescent, azide-free balanced electrolyte solution for use on AQUIOS flow cytometers with light scatter and fluorescent applications.

Size	Format	Status	Quality Standard	Part #
1 x 10 L	Liquid	IVD	cGMP	<b>B25697</b>

## CytoFLEX Sheath Fluid

A nonionic, non-fluorescent, and azide-free sheath fluid for use on Beckman Coulter CytoFLEX flow cytometers.

Size	Format	Status	Quality Standard	Part #
10 L	Liquid	RUO	cGMP	<b>B51503</b>

## DxFLEX Sheath Fluid

Size	Format	Status	Quality Standard	Part #
10 L	Liquid	IVD	cGMP	<b>B73613</b>

## EMnetik Plasmid Purification Kit

**NEW**

Size	Format	Status	Quality Standard	Part #
96 preps		nMD	-	<b>C68445</b>

## IsoFlow Sheath Fluid

This isotonic fluid is specifically formulated for use in flow cytometers. IsoFlow Sheath Fluid is carefully manufactured for low particulate and fluorescence backgrounds to ensure superior signal to noise ratio measurements.

Size	Format	Status	Quality Standard	Part #
4 x 1.8 L	Liquid	IVD	98/79/EC	<b>8547008</b>
1 x 10 L	Liquid	IVD	cGMP	<b>8546859</b>

## PuraFlow Sheath Fluid

Size	Format	Status	Quality Standard	Part #
20 L	Liquid, 1X	RUO	cGMP	<b>A70188</b>
4 x 6 L	Liquid, 8X	RUO	cGMP	<b>CY30230</b>

## Startup Reagents

## CytoFLEX Startup Reagents

Daily QC Beads, Sheath, Flow Clean, Contrad.

<i>Size</i>	<i>Format</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
1 pack	Tubes	nMD	-	<b>B55031</b>
1 pack	Plates	nMD	-	<b>C14907</b>

## CytoFLEX Startup Reagents - Infrared

Daily QC Beads, IR QC beads, Sheath, Flow Clean, Contrad.

<i>Size</i>	<i>Format</i>	<i>Status</i>	<i>Quality Standard</i>	<i>Part #</i>
1 pack	Tubes	nMD	-	<b>C14908</b>
1 pack	Plates	nMD	-	<b>C14909</b>

## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# INSTRUMENTATION

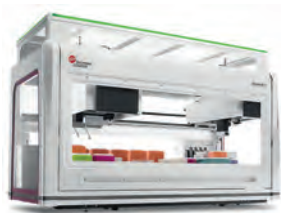


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Flow Cytometry Software	282
Instrument Accessories .....	287-289



## Integrated Solution

## Automation



Automate sample handling to enhance reproducibility and productivity

## Cell Health



Improve product quality, stability and performance

## Centrifugation



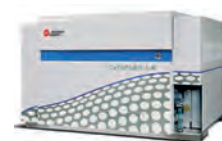
Basis for all lab sample separation and preparation

## Genomics



Simplify and Automate genetic analysis

## Flow Cytometry



Increase throughput of single-cell analysis

Beckman Coulter Life Sciences can transform Biomek liquid handlers into complete workflow solutions that optimize the efficiency, consistency, and reliability of your lab operations. We understand that each lab is unique. Whether you desire to use existing equipment or require new instruments, we will work with you to analyze your application process and design a system that addresses your laboratory's needs, challenges and goals.

Our Access Solution Group (ASG), formerly known as Integrated Solutions, has extensive, multidisciplinary training and experience in mechanical, electrical and systems engineering, software development, and project management, has successfully integrated more than 300 third-party devices from over 60 manufacturers to meet our customers' diverse automation needs.

**Flow Cytometry Automation**

High-throughput flow cytometry has become an integral part of drug discovery efforts with applications in phenotypic screening, ligand binding assays, monoclonal antibody screening and biomarker discovery. The integration of the multi-parametric CytoFLEX flow cytometer increases sample throughput allowing faster processing of high complexity assays.

We now have two solutions with which to pair your CytoFLEX, depending on your throughput needs.

- The integration of the multi-parametric CytoFLEX flow cytometer to the Automation Assistant increases sample throughput allowing faster processing of high complexity assays.
- The integration of the multi-parametric CytoFLEX flow cytometer to a Biomek i5 or i7 workstation becomes a fully integrated hands-free cytometry workflow which incorporates all processing steps including sample preparation through data analysis. This workflow is further simplified by using the LUCID dry reagent plate format for antibody cocktails and data analysis using the Cytobank cloud computing software platform.

**Automation of ELISA with Biomek Workstations**

The flexibility and versatility of the Biomek i-Series platform allows the selected workstation of your choice to carry out all of the ELISA tasks, increasing the walk-away time and improving efficiency. The workstation reduces human error with precise dispensing and consistent treatment of each well/plate resulting in increased reproducibility. Our workstations offer high throughput capability supporting a variety of plates and tubes and come in several configurations which can be compatible with a HEPA-filtered enclosure.

## LIQUID HANDLER

## Biomek 4000 Laboratory Automation Workstation

The Biomek 4000 Workstation offers powerful and intelligent liquid handling that adapts to changing situations. From its easy-to-use icon-driven software and available application methods to its enhanced work surface with interchangeable tools, the Biomek 4000 Workstation is designed to help you streamline your workflow and automate your laboratory today and tomorrow. The Biomek 4000 Workstation takes your productivity and accuracy to new levels, so you spend less time on process and more time on powerful discoveries. At the heart of the Biomek 4000 Workstation is its hardware. Built with rugged, robust features, this liquid handling system offers reliable performance that flexes and grows with your needs.

The modular deck configuration allows you to set up the work surface with the standard eight positions (expandable to 12), while off-deck storage space keeps your tool rack and liquid waste station close by. New and improved tools offer even higher throughput for assays greater than 200  $\mu\text{L}$  and up to 1000  $\mu\text{L}$  volume transfers. The improved wash tool enables tip touches and more accurate volume dispenses.

**Optional enclosure**

Even though the Biomek 4000 fits comfortably into a laminar flow hood, it's also available with an optional enclosure. The small footprint of the enclosure will fit neatly on your lab bench.

**Expanded dynamic volume range**

From 1  $\mu\text{L}$  to 1000  $\mu\text{L}$ , the Biomek 4000 workstation offers precise and robust pipetting, both single channel and 8-channel.

**Frees up deck space**

Off-deck mounts—such as the tool rack and liquid waste station—open up deck positions, allowing you to process more plates at a time.

**Improved wash tool performance**

Allows for dispensing against the wall of a well, tip touches, bulk dispense and per liquid volume calibration to maximize the efficiency of your assay.

**Accessories**

Heating, cooling, and shaking accessories are available.

**Fully automated deck framing**

The AccuFrame tool provides increased accuracy using three-dimensional positioning.

**Integration-friendly**

The Biomek 4000 system can be customized for larger scale-up applications by Beckman Coulter's Integrated Solutions team of experts.

**Additional storage**

Storage provided beneath the deck frees up even more precious lab space and keeps all your tools close at hand.

Workstation	Size	Status	Part #
Biomek 4000 Workstation	1 unit	nMD	Please call

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## LIQUID HANDLER

## Biomek i-Series Automated Workstation

Representing what has made Biomek Workstations an industry leader—combined with enhancements suggested by customers around the globe—Biomek i-Series Automated Workstations have been designed to optimize dependability and walk-away time in mid- to high-throughput labs.

- **Off-set, rotating gripper** optimizes access to high-density decks, enabling more efficient workflows
- **Large-volume, 1 mL multichannel pipetting head** expedites sample transfers and enables more efficient mixing steps
- **Onboard cameras** enable live broadcast and on-error video capture to expedite response time and system diagnosis
- **Spacious, open-platform design** enables access from all sides to allow for integration of adjacent-to-deck and off-deck processing elements (e.g., analytical devices, external storage/incubation units, and labware feeders)
- **Biomek light curtain** provides a key safety feature during operation and method development
- **Internal LED light** illuminates the instrument deck for easy access and monitoring of your workspace status
- **Bright, multiple color- and pattern-coded status light bar** alerts you to the instrument's current mode, even from across the room
- **Windows 10-compatible Biomek i-Series software** provides sophisticated pipetting techniques including automatic volume-splitting, and can interface with third-party and all other Biomek support software
- **Biomek Method Launcher** enables you to select, set up, run and track methods in a few simple mouse clicks, as well as remotely monitor real-time progress from any device with a Google Chrome browser.
- **SAMI EX** designed to provide complete automation and process control by creating planned schedules with the benefits of an optimized, predictable static schedule
- **DART** (Data Acquisition and Reporting Tool) gathers data and synthesizes runtime information from Biomek log files to capture each manipulation of the sample during the course of the method
- **SAMI Process Management** (SPMS) is a calendar organizational tool that allows the addition, monitoring, and planning of SAMI EX methods and other events as part of user-defined processes



### Biomek i5

#### Dimensions without Enclosure:

Width: 112 cm (44"); Depth: 81 cm (32"); Height: 104 cm (41")

#### Dimensions with Enclosure:

Width: 112 cm (44"); Depth: 81 cm (32"); Height: 112 cm (44")

**Deck Capacity:** 25 MTP (microtiter plate) Positions

#### Pipetting Options:

Single Multichannel head (96/384) or Span-8 pipetting with gripper

### Biomek i7

#### Dimensions without Enclosure:

Width: 170 cm (67"); Depth: 81 cm (32"); Height: 104 cm (41")

#### Dimensions with Enclosure:

Width: 170 cm (67"); Depth: 81 cm (32"); Height: 112 cm (44")

**Deck Capacity:** 45 MTP Positions

#### Pipetting Options:

Multiple single- & dual-arm configurations with Multichannel heads (96/384) and/or Span-8 pipetting

Workstation		Size	Status	Part #
Biomek i5 Base Unit		1 unit	nMD	Please call
Biomek i7 Base Unit		1 unit	nMD	Please call
Pipetting Heads	Description	Size	Status	Part #
<b>MC-96</b>				
Pipetting head, 300 µL	1 µL - 300 µL	1 unit	nMD	<b>B87590</b>
Pipetting head, 1200 µL	5 µL - 1,200 µL	1 unit	nMD	<b>B87589</b>
<b>MC-384</b>				
Pipetting head, 60 µL	0.5 µL - 60 µL	1 unit	nMD	<b>B87591</b>

Biomek Automated Workstations are not intended or validated for use in the diagnosis of disease or other conditions.

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## NEW

## LIQUID HANDLER

## Echo Acoustic Liquid Handler

Innovative Echo acoustic droplet ejection (ADE) technology delivers precise, accurate and cost-efficient liquid transfers by moving liquids with sound. Whether you're involved in drug discovery, compound management, genomics research, synthetic biology, proteomics, functional screening or other research applications, you can do better science and save money with Echo technology.

Echo ADE technology:

- Eliminates contact-driven cross-contamination during liquid transfer
- Provides unsurpassed accuracy and repeatability of results
- Preserves sample integrity and viability during transfer
- Increases flexibility in transferring liquids at different positions/volumes
- Reduces operating costs by reducing waste generation



Acoustic Sample Tubes - Echo® Qualified Consumables, transform workflows by enabling acoustic dispensing directly from tubes. The Acoustic Sample Tubes preserve sample integrity by allowing samples to be accessed individually - ideal for applications that require subsets of large libraries to be accessed frequently.

### Access Systems

Access Single (SRS) and Dual Robot Systems (DRS) are compact, modular, high-throughput platforms, designed and optimized for the use of Echo Liquid Handlers. They're the only automation platforms compatible with Echo 650T/655T Liquid Handlers, enabling all acoustic workflows including the automation of acoustic sample tubes.

The Access Dual Robot System (DRS) is a compact, modular, high-capacity, and high-throughput platform, designed and optimized for the use of Echo Liquid Handlers in sample management workflows. It is the only automation platform on the market compatible with Echo® 650 Series Liquid Handlers, enabling the production of assay-ready plates from acoustic sample tubes. The system combines industry-leading devices and software with ergonomic and environment management options to provide a complete, easy-to-use, store-to-assay sample management solution.

Models	Description	Status	Part #
<b>Echo 525</b>	Medium throughput; Echo Qualified Microplates	nMD	<b>001-10080</b>
<b>Echo 650 Series</b>			
<b>Echo 650</b>	Medium throughput; Echo Qualified Microplates	nMD	<b>001-16079</b>
<b>Echo 650T</b>	Medium throughput; Echo Qualified Sample Tubes and Microplates	nMD	<b>001-16078</b>
<b>Echo 655 Series</b>			
<b>Echo 655</b>	High throughput; Echo Qualified Microplates	nMD	<b>001-16080</b>
<b>Echo 655T</b>	High throughput; Echo Qualified Sample Tubes and Microplates	nMD	<b>001-13722</b>

Not intended or validated for use in the diagnosis of disease or other conditions.

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21



## NEW

## NEXT GENERATION LIBRARY PREP SYSTEM

## Biomek NGenius

The latest in a long line of Smart Automation Technology.

Inspired by Beckman Coulter's 30-plus years of laboratory automation and Smart Automation Technology, Biomek NGenius System represents an evolutionary leap in NGS liquid-handling systems with its best-in-class performance, error-reduction technology, ease-of-use, reduced hands-on-time, and flexibility.

**Flexible application selection:** As part of our comprehensive service agreement, the Biomek NGenius System provides a wide range of complimentary demonstrated methods from a variety of reagent manufacturers, including:

**DNA Sequencing:**

- Whole genome
- Targeted re-sequencing (Amplicon & Hybridization Capture)

**RNA Sequencing:**

- mRNA
- Total RNA
- Targeted RNA (Amplicon & Hybridization Capture)



**Application control:** Control user access to applications with a simple authorization process (if required). Ensure that only authorized users have access to non-lab validated applications.

**Work-from-anywhere batch set up\*:** Using the Biomek NGenius Portal software, set up your batch run when and where it's most convenient for you. Whether working from home, office, or benchtop, you can program batch sizes from 4-24 samples.

**Reagent preparation made easy:** Once you select the application and enter the number of samples, the Biomek NGenius software creates a Work Aid, which includes:

- Reagent list needed for the run
- Volume requirements for each reagent
- Instructions on how to prepare and load reagents

The Work Aid saves time and effort while ensuring reproducibility during reagent preparation.

**Dimensions:** 73.2 cm x 78 cm x 81 cm \_ Weight: 131 lb (59.5 kg)

**Error-reduced instrument setup:** Sophisticated optical analytics combined with the head-up display give you real-time feedback on labware placement, virtually eliminating loading errors. Now you can allow less-experienced operators to run complex applications with confidence.

**Remote system monitoring\*:** The 360° multicolored, pattern-encoded light bar shows current instrument status. Not within visual range? The Biomek NGenius Portal software allows you to monitor the system status from any computer.

**Simplified sample processing:** The Multi-functional Reaction Vessel (RV) combines three consumables into one, reducing time spent on labware inventory management:

- Sample input plate
- Thermal cycling plate
- Clean-up plate

Track your samples—with up to 100 million unique RV barcodes—throughout the application run.

\* Requires a Google Chrome or Microsoft Edge enabled computer.

Workstation	Description	Size	Status	Part #
<b>Biomek NGenius System</b>	10 A, 100-240 V, 50/60 Hz	1 unit	nMD	<b>C62703</b>
Accessories	Description	Size	Status	Part #
<b>Biomek Bulk Reservoir</b>	24 well	20 mL/section	nMD	<b>C62707</b>
<b>Biomek Lid</b>	24 well	30/box	nMD	<b>C62706</b>
<b>Biomek Reaction Vessel</b>	24 well	30/box	nMD	<b>C62705</b>
<b>Biomek Seal Plate</b>	24 well	20/Box	nMD	<b>C70665</b>
<b>Conductive Tips 1025 µL</b>	480 Tips	5 racks/case	nMD	<b>C59585</b>
<b>Conductive Tips 70 µL</b>	3840 Tips	10 racks/case	nMD	<b>C62712</b>
<b>Tip Box</b>				
<b>70 µL Tip Box</b>	Empty	10 racks/case	nMD	<b>C70673</b>
<b>1025 µL Tip Box</b>	Empty	10 racks/case	nMD	<b>C70672</b>

Biomek Automated Workstations are not intended or validated for use in the diagnosis of disease or other conditions. In development, performance characteristics have not been validated.

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## NEW

## NUCLEIC ACID CLEANUP AND PLASMID PURIFICATION

## EMnetik System

Bring your PCR cleanup and plasmid prep into the 21st century. Monotonous, time-consuming column cleanup has been around since 1991—so a change is long overdue. And now it's here. When you replace your typical column cleanup steps with the benchtop EMnetik System, you'll spend half the time on PCR cleanup, which means you'll have more time for the important activities in your lab.

**Benefits of the EMnetik System:**

- ~2x faster turnaround time compared to column PCR cleanups (16 min vs 30 min)
- >80% recovery (comparable to column PCR cleanup kits)
- Significantly fewer touchpoints:
  - o < 50 touchpoints compared to 300 for columns for PCR cleanup
  - o No need to handle small columns or use a single-channel pipette
  - o Move samples from a thermocycler or lysate to the EMnetik 24 microparticle processor, and don't move them again until final elution
- Plasmid recovery of 4-7 µg shown for a high copy plasmid
- Intuitive user interface removes guesswork by providing clear, step-by-step instructions
- Column-based cleanups are officially history.

The EMnetik system can perform PCR and other enzymatic reaction cleanups and isolate plasmids from bacteria.

Users can:

- Perform 1-24 samples at a time
- Perform PCR cleanup in less than 16 minutes
- Expect at least 80% recovery with a DNA purity of (260/280) > 1.7 and (260/230) > 1.8
- Choose an elution volume between 20 µL and 50 µL

**Physical dimensions:**

17.15 cm W x 31.50 cm D x 17.02 cm H

**Weight:** 3.24 kg

**EMnetik 24 Microparticle Processor**

EMnetik 24 is a microparticle processor designed to work with the EMnetik PCR Cleanup Kit and EMnetik Plasmid Purification Kit in genetic engineering workflows.

**EMnetik PCR Cleanup Kit**

The EMnetik PCR Cleanup Kit is a revolutionary bead-based DNA cleanup kit. Using new SuperSPRI bead technology combined with the microparticle processor EMnetik 24, users can complete PCR cleanups in 16 minutes.

**EMnetik Plasmid Purification Kit**

The EMnetik Plasmid Purification Kit is a new bead-based DNA cleanup kit. Using new SuperSPRI bead technology combined with the microparticle processor EMnetik 24, users can complete a plasmid prep without having to handle columns.

Workstation		Size	Status	Part #
<b>EMnetik 24 Microparticle Processor</b>		1 unit	nMD	<b>C57784</b>
Accessories	Description	Size	Status	Part #
<b>EMnetik PCR Cleanup Kit</b>	For 50 µL reactions	500 preps	nMD	<b>C68442</b>
<b>EMnetik Plasmid Purification Kit</b>		96 preps	nMD	<b>C68445</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## NEW

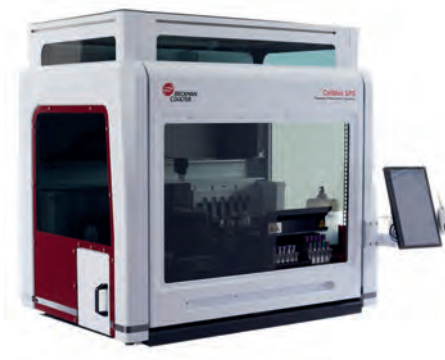
## CellMek SPS

The CellMek SPS is a sample preparation system for use in flow cytometry laboratories and other laboratories that perform cell analysis. It is intended to be a clinical system for in vitro diagnostic use. The purpose of the product is to prepare specimens from a variety of human sources such as whole blood, bone marrow, and dissociated solid tissue.

It will automatically aliquot the specimen, add antibodies or other appropriate reagents, add lysing reagents, wash the samples if needed, perform mixing and timed incubations and offer fully prepared samples that are ready for analysis via microscope or on a flow cytometry instrument.

The system includes automatic loading of multiple specimens, full connectivity with Laboratory Information Systems (LIS) and barcode tracking of specimens, samples and reagents.

The CellMek SPS can prepare samples into carousels compatible with Beckman Coulter Flow Cytometers.



Key features of the CellMek SPS include:

- **The Panel Designer Software** lets you design your own protocols that fit a wide variety of applications
- **On-board refrigeration and cap piercing** technology reduce daily manual handling of antibodies
- The system provides **capacity of up to 12 DURACartridges** (12 tests each) which can be combined with liquid antibodies (capacity: up to 53 vials) in a protocol
- **Spin Wash Chambers** provide freely programmable onboard washing capability
- All reagents are **barcoded** to provide automated tracking of reagents for a full audit trail
- **Continuous loading** and unloading provide flexibility and efficiency

## INSTRUMENT

## Dimensions (W x D x H)

- CellMek SPS: 112 cm x 76.2 cm x 111.76 cm / 44 in. x 30 in. x 44 in.
- Supply Cart: 80 cm x 47 cm x 53.2 cm / 32 in. x 19 in. x 21 in.
- CellMek SPS (Drawer open, door raised):  
160 cm x 76.2 cm x 152.4 cm / 63 in. x 30 in. x 60 in.

**Weight:** 187 kg (412 lbs)

**Power Specifications:** 100-240 VAC, 50/60 Hz, 10 A

**Acoustic Noise Level:** ≤65 dBa

## ENVIRONMENT

**Antibody Storage Temperature:** 2°C ≤ x ≤ 8°C

**Ambient Operating Temperature:** 15.5°C to 26.7°C (59.9°F-80.1°F)

**Operating Humidity:** 30-70%

**Altitude Restrictions:** Up to 3000 m (9880 ft.)

**Heat Dissipation:** 850 W (2900 btu/hour)

Workstation	Size	Status	Part #
<i>CellMek SPS</i>			
<b>CellMek SPS x/UPS (100-120V)</b>	1 unit	IVD	<b>C81740</b>
<b>CellMek SPS w/UPS (220-240V)</b>	1 unit	IVD	<b>C83751</b>
Accessories		Status	Part #
<i>Cassettes</i>			
<b>Cassette Type A</b>		nMD	<b>C38523</b>
<b>Cassette Type A+</b>		nMD	<b>B08260</b>
<b>Cassette Type B</b>		nMD	<b>B07575</b>
<b>Cassette Type D</b>		nMD	<b>B07577</b>
<b>Cassette Type E</b>		nMD	<b>C68661</b>
<i>Cassette labels</i>			
<b>Cassette Type A labels</b>		nMD	<b>A46135</b>
<b>Cassette Type B labels</b>		nMD	<b>A46136</b>
<b>Cassette Type D labels</b>		nMD	<b>A46138</b>
<b>Cassette Type E labels</b>		nMD	<b>C71319</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

*Consumables with Barcode Label*

<b>IOtest vials (empty) with barcode label</b>	nMD	<b>C68652</b>
<b>Lyse bottles (empty) with barcode label</b>	nMD	<b>C68757</b>
<b>Plate 48 wells / 2D barcode, 4.8 mL</b>	nMD	<b>C44097</b>
<b>Tubes 12 x 75mm (empty) with barcode label</b>	nMD	<b>C58854</b>

*Pierceable Caps*

<b>IOtest Pierceable Caps</b>	nMD	<b>C67717</b>
<b>Cyto-Stat Pierceable Caps</b>	nMD	<b>C58512</b>

<i>Other</i>	<i>Status</i>	<i>Part #</i>
<b>DuraCartridge</b>	nMD	Please call
<b>IsoFlow Sheath Fluid</b>	1 x 10 L IVD	<b>8546859</b>



## PrepPlus 2 Workstation

The PrepPlus 2 provides precision pipetting of reagents, patient samples, controls and fluorospheres into daughter tubes of both the FC500 and Navios Carousels. Lysing is then automatically performed on the TQ-Prep. Other features include:

- Flexible software programming of reagents, controls and pipetting parameters
- Improved safety with closed tube sampling
- Standardized, reproducible performance



<i>Workstation</i>	<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>PrepPlus 2 Workstation</b>	1 unit	IVD	<b>378600</b>
<i>Accessories</i>	<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>PrepPlus 2 Accessory Kit</b>	1 kit	nMD	<b>6915549</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## TQ-Prep Workstation & IMMUNOPREP Reagent System

The TQ-Prep Workstation and IMMUNOPREP Reagent System together provide rapid, no-wash whole-blood sample preparation. Automation provides inter-sample and inter-laboratory consistency and reproducibility. A standard 32-tube carousel allows walk-away processing and perfectly complements Beckman Coulter flow cytometers with automatic sample loaders. Intended primarily for laboratories with a high test volume (at least 300 tests per month), the TQ-Prep uses the revolutionary patented lyse and fix technology introduced more than a decade ago with the Q-PREP Workstation and IMMUNOPREP Reagent System.



<i>Workstation</i>	<i>Description</i>	<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>TQ-Prep Workstation</b>	Standard 50/60 Hz	100-240 Vac	IVD	<b>6605429</b>
<i>Accessories</i>	<i>Description</i>	<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>Syringe Pump</b>	Upgrade kit for Low Angle Light Scatter (LALS)	1 kit	RUO	<b>6915116</b>
<i>Reagent System</i>		<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>IMMUNOPREP Reagent System</b>		300 tests	IVD	<b>7546999</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## BENCHTOP CENTRIFUGE

## Avanti J-15 Series

The New Avanti J-15 Series of benchtop centrifuges is part of a new family of life science equipment that provides the exceptional performance you expect from Beckman Coulter. Refrigerated (Avanti J-15R) or ventilated (Avanti J-15), these centrifuges use Ultra Harmonic Technology providing time savings when conducting experiments. The Avanti J-15 series is an all around solution for your scientific needs.

**Specification**

- 3.0 L Max Capacity
- 10,200 RPM
- 11,420 x g

**Ultra Harmonic Technology**

- Time savings
- Achieve efficiencies up to 10%\*

**Soft Pellet Deceleration**

- Protects sample
- Results in increased sample yield

**Optimized Sensitivity**

- Detects rotor imbalance within 30 seconds
- Reduces false diagnostics



**Speed Efficiency and Minimum Sample Disturbances with Ultra Harmonic Technology:** Intelligent acceleration and deceleration profiles

**Durable and Easy-to-Clean, Innovative Design:** A hallmark of Beckman Coulter's life science equipment

**Fast and Accurate Imbalance Detection:** Early diagnostic eliminates false positives with hardware and software improvements

**Optimize Bench Space:** With our truly ventilated unit while processing any protocol in cell culture, blood separation or microbiology

**Efficiency:** Easy one-touch access to 6 programs and store up to 99 programs

**Ease of Use and Faster Accessibility:** Icon usability and intuitive display on high contrast color LCD screen

\* Compared to the Allegra X-14R.

**Avanti J-15 high performance benchtop centrifuge**

- Reach up to 10,200 rpm and a max g force of 11,420 RCF
- A compact 55.6 cm (21.9 inches) width saves valuable lab space
- Ultra Harmonic Technology effectively minimizes sample disturbance with intelligent acceleration/deceleration profiles resulting in more sample yield
- New software interface provides one-touch access to your last 6 programs (but stores up to 99)
- Easy-to-use, color LCD screen lets you enter program parameters with no scrolling

**Avanti J-15R high performance refrigerated benchtop centrifuge**

- Reach up to 10,200 rpm and a max g force of 11,420 RCF
- Ultra Harmonic Technology effectively minimizes sample disturbance with intelligent acceleration/deceleration profiles resulting in more sample yield
- New software interface provides one-touch access to your last 6 programs (but stores up to 99)

Models	Status	Part #
<b>Avanti J-15</b>		
100-120/200-230 V, 50/60 Hz	IVD	<b>C01994</b>
100-120/200-230 V, 50/60 Hz	nMD	<b>C01995</b>
<b>Avanti J-15R</b>		
120 V, 60 Hz	IVD	<b>B99517</b>
120 V, 60 Hz	nMD	<b>B99516</b>
200-230 V, 50 Hz	IVD	<b>B99515</b>
200-230 V, 50 Hz	nMD	<b>B99514</b>
208-230 V, 60 Hz	IVD	<b>C31547</b>
208-230 V, 60 Hz	nMD	<b>C31546</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## HIGH PERFORMANCE CENTRIFUGE

## Avanti J-E High-Performance Centrifuge

Easily perform separations with the compact Avanti J-E high-speed centrifuge. Our entry-level high performance instrument is uniquely designed to achieve a high degree of separation, and offer outstanding high-speed performance in a compact design.

- 4.0L max capacity
- 21,000 max RPM
- 53,300 x g
- -10° C to 40° C in 1° increments

**Space Conscious**

Knowing space is at a premium, we gave the Avanti J-E a small footprint, allowing you the freedom to place it right in your lab, so it's where you need it, when you need it.

**Safety Minded**

Each rotor is automatically identified at low speed to ensure that each run is 100% safe. Even if the operator inputs incorrect run parameters, the Avanti J-E will check and reset itself to a speed that is safe for the detected rotor and complete the run without shutting down.

**Efficient Operation**

Avanti J-E's low height and contoured front panel help ease the burden of rotor installation and retrieval. Our high-torque switch reluctance (SR\*) technology generates fast acceleration and deceleration meaning quicker separations and less waiting.

\* SR Drives are manufactured by Beckman Coulter with technology licensed from Switched Reluctance Drives Limited.

**Friction Reduction System**

Avanti J-E uses a Friction Reduction System (FRS) to reduce heat generation, which means better sample cooling, a cooler lab, quieter operation, and greatly reduced energy usage. FRS uses a zero-maintenance partial vacuum system that increases overall reliability and saves you money.

**Variety of Applications**

Avanti J-E's extensive rotor library maximizes capacity and optimizes g-Force for efficient, fast separations. The library includes: The AllSpin rotor for microplates and general purpose separations; lightweight, high-capacity 4-liter capability, and a complete range of BioCertified rotors.

**Programmable**

The Avanti J-E can save up to nine user programs for recall.

Models	Status	Part #
<b>Avanti J-E</b>		
<b>208-240 V, 50/60 Hz</b>	nMD	<b>369001</b>
<b>230 V, 50 Hz</b>	nMD	<b>369003</b>
<b>200 V, 50/60 Hz</b>	nMD	<b>369005</b>
<b>200/208/240 V, 50/60 Hz</b>	nMD	<b>969352</b>
BioSafe		

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21



## HIGH PERFORMANCE CENTRIFUGE

## Avanti JXN-26 High-Performance Centrifuge

The Avanti JXN-26 has been redesigned to provide even more versatility and safety.

The Avanti JXN-26 has a more impact resistant lid, full containment barrier, and automatic rotor identification. But improvements aren't the only features that set the Avanti JXN-26 apart. It's built upon standard-setting performance, including high speed, low heat output, improved imbalance tolerance and low noise. Its vast range of separations only continues to grow. And its ergonomic design—with lower instrument height and hands-free door operation (applies only to opening the door, not closing) is enhanced by a large easy to read touch screen interface.

**High Performance**

Application versatility: can process six liters of fermentor output in less than 10 minutes, deliver a subcellular fraction at 82,000 x g and run 24 microplates at a time.

**Ease of use**

Large, Windows based intuitive multi language touch screen interface. Ideal for shared labs & GMP environments.

**Complete BioSafety\* Systems**

BioCertified\*\* rotors, instruments and labware contain microbiological aerosols, while sterile filters prevent infectious materials from being expelled into the lab environment. Together, they enhance peace of mind for users and lab managers.

**Dual System Rotor Recognition**

Automatically detects which rotor is installed and prevents the rotor from running above its maximum-rated speed—without shutting down the run. All to ensure the safety of your lab.

**Friction Reduction System**

Enables quicker, quieter, more energy-efficient runs with better temperature control, which improves system reliability. High-torque, switched reluctance (SR) drive technology shortens cycle times.

**Lightweight J-Lite Rotors**

Consistently designed to be the most efficient rotors—for reduced run times and high g-force.

**Ergonomic Design**

Lower work surface for easier rotor handling. Foot pedal opens the door and improved door design swings up and out of the way.

\* Biosafety is term intended to describe the enhanced biocontainment features of product.

\*\*BioCertified is a term used to describe our products which have been tested and validated to demonstrate containment of microbiological aerosols by an independent, third-party facility (Health Protection Agency, Porton Down, UK or USAMRIID, Ft. Detrick, MD, USA). Improper use or maintenance may affect seal integrity and, thus, containment.

Models	Status	Part #
<b>Avanti JXN-26</b>		
200-240V, 3 phases, 50-60 Hz, 24A	nMD	<b>B34183</b>
200-240V, 3 phases, 50-60 Hz, 24A	IVD	<b>B38619</b>
220V, 3-PH, 50 HZ, 12A	nMD	<b>B34182</b>
220V, 3-PH, 50 HZ, 12A	IVD	<b>B38618</b>
230V, 50-Hz, 24A	nMD	<b>B37912</b>
230V, 50-Hz, 24A	IVD	<b>B38623</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## HIGH PERFORMANCE CENTRIFUGE

## Avanti JXN-30 High-Performance Centrifuge

Covering all of the applications of a floor-standing centrifuge, the Avanti JXN-30 features rotor speed of 30,000 RPM and RCF greater than 100,000 x g. Master daily lab challenges with the advanced levels of networking, reliable performance, and improved BioSafety\* found in the Avanti JXN-30.

The additional power of the MobileFuge app gives additional flexibility, including the ability to:

- Access and monitor data remotely
- Receive system notifications via email or text message
- Manage permissions
- Address error handling and more via networks or mobile devices

**Work remote with the MobileFuge app**

- Set and monitor run parameters from your Apple iOS or Android device with MobileFuge
- Securely email results
- Receive alerts and diagnostics remotely

**Designed for Speed and Safety**

- Windage, inertia, and rotor ID checks via magnets offer triple redundant safety
- Friction Reduction System (FRS) for quicker, quieter, and cooler runs
- High-torque, Switched Reluctance (SR) drive cycle for shorter cycle times

**15" LED Touchscreen Monitor**

- Built to withstand 10 million touches
- Backlight life of 50,000 hours
- LED backlight for 20% power saving and environmental protection

**Easy to use software**

- Simultaneous display of set and actual run conditions
- Rotor selection by name (not code)
- 11 acceleration/12 deceleration rates
- Delay start
- Run times to 99:59, Hold, and  $\omega$ 2t integrator for applications requiring precise reproducibility

**Powerful data management**

- Up to 1,000 user-defined programs
- Storage for numerous protocols
- Password protection for up to 50 unique user profiles
- Networking capability for multiple instruments
- Data logging and real-time run graphing

**Application Versatility**

- Compatible with an expansive library of rotors including fixed-angle and swinging bucket options
- Dynamic Rotor Inertia Check (DRIC) and rotor recognition provide redundant safety checks to ensure rotors run at rated speeds
- Optimized temperature control to ensure sample quality and prevent unwanted artifacts
- Swinging bucket and fixed angle rotors capable of relative centrifugal force (RCF) greater than 100,000 x g

**Ergonomics designed for you**

- Low work surface height for easier installation and unloading of rotors
- Foot pedal for hands-free door operation (applies only to opening the door, not closing)
- Door swings up and out of the way for easy access to the rotor chamber
- 15" digital monitor
- Energy efficient for reduced total cost of ownership

\* Biosafety is term intended to describe the enhanced biocontainment features of product.

Models	Status	Part #
<b>Avanti JXN-30</b>		
<b>220V, 3 phases, 50 Hz, 12A</b>	nMD	<b>B34192</b>
<b>220V, 3 phases, 50 Hz, 12A</b>	IVD	<b>B38620</b>
<b>200/208/240V, 50/60 Hz, 24A</b>	nMD	<b>B34193</b>
<b>200/208/240V, 50/60 Hz, 24A</b>	IVD	<b>B38621</b>
<b>230V, 50 Hz, 24A</b>	nMD	<b>B37913</b>
<b>230V, 50 Hz, 24A</b>	IVD	<b>B38624</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## ULTRACENTRIFUGE

## Optima MAX Series Ultracentrifuges

The Optima MAX Series of tabletop ultracentrifuges delivers the power and performance into any laboratory. But Optima MAX instruments are far from the average tabletops. They bring more sophistication than ever, without sacrificing usability.

Elevating a laboratory's potential starts with the optimal tabletop ultracentrifuge. And the Optima MAX Series is the absolute top of the line. Reaching up to 150,000 rpm and over 1,000,000 x g, Optima MAX instruments set the standard in tabletop speed. Our entry-level model, the TL, is designed for optimum functionality and efficiency within a compact, quiet package. Our premium model, the XP, features advanced software with password-controlled security features, remote control capabilities, and a variety of tracking and archiving features.

Both models feature multi-layered BioSafety\* measures to ensure an uncompromised working environment, and both work perfectly with our existing library of rotors and labware. The Optima MAX Series takes sophistication and total system design to a whole new level.

**Total-system design:** Instruments, rotors and labware are designed to work together perfectly.

**Multi-level approach to BioSafety\*:** HEPA filtration, BioSafe\* tubes, fluid containment annulus rotors, fits in standard BioSafety hood.

**User-friendly, multilingual interface:** Full-color LCD touch-screen with nine languages—the most available in the industry.



\*BioSafe and BioSafety are terms intended to describe the enhanced biocontainment features of our products.

## The Optima MAX-TL tabletop ultracentrifuge

- 40.8 mL max rotor capacity
- 120,000 max RPM
- 657,000 x g

## The Optima MAX-XP tabletop ultracentrifuge

- 194.4 mL max rotor capacity
- 150,000 max RPM
- 1,019,000 x g
- Security and tracking
- Remote monitoring and control
- On-screen rotor library

Models		Status	Part #
<i>Optima MAX-TL</i>			
<b>MAX-TL</b>		nMD	<b>A95761</b>
<b>MAX-TL Biosafe</b>	Includes centrifuge and HEPA filter	nMD	<b>B11229</b>
<i>Optima MAX-XP</i>			
<b>MAX-XP</b>		nMD	<b>393315</b>
<b>MAX-XP Biosafe</b>	Includes centrifuge and HEPA filter	nMD	<b>A47882</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## ULTRACENTRIFUGE

## Optima XPN Series Ultracentrifuges

Optima XPN is the ultra of ultracentrifuges. No other floor-model preparative ultracentrifuge offers this level of design, functionality, and performance. Possessing all of the attributes of our entry-level model, the XE, the Optima XPN boasts additional enhancements that will simplify use, optimize control and security, and increase productivity. You'll applaud its intelligent user interface, networking and remote control capabilities, and energy efficiency. And of course, our total system design backed by our exclusive rotors, labware, and unparalleled service.

**Large Touch-screen Display**

Easy to read and navigate. Viewable from across the lab. Intuitive graphical interface with on-screen help. Multilingual software for error-free operation.

**Improved Power Tolerance**

Maintains runs during power fluctuations. Handles a wider tolerated range of 180 VAC to 264 VAC. Tracks power interruption data to convey if parameters remained within an acceptable range.

**Security and tracking features**

Manage rotor life by serial number. Track detailed usage history. Password protection and electronic signatures help you maintain chain of custody and compliance.

**Remote Monitoring and Control**

Saves time. Start, stop, and monitor from computer or smart phone. Receive diagnostic alerts via e-mail.

**Real-time Run Graphing**

Plots speed and temperature over time, allowing you to track and record progress.

**Powerful On-board Simulation and Calculation Tools**

Saves time and samples. Proprietary software optimizes protocols before running to ensure maximum efficiency. Quickly perform common calculations and conversions.

**Energy Efficient**

Regenerative braking returns energy to local circuit reducing utility costs. Highly efficient thermoelectric cooling results in lower power consumption. Uses the same amount of power as a 60-watt light bulb while idling.

**Quiet-drive Technology**

Designed for lowest drive noise. Operates at less than 51dBA.

**Total System Design**

The Optima XPN, its rotors and its labware are designed, manufactured, and tested as an integrated system to ensure optimal performance and safety for your lab.

Models	Status	Part #
<i>Optima XPN-80K</i>		
<b>XPN-80K</b>	nMD	<b>A95765</b>
<b>XPN-80K</b>	IVD	<b>A99839</b>
<i>Optima XPN-90K</i>		
<b>XPN-90K</b>	nMD	<b>A94468</b>
<b>XPN-90K</b>	IVD	<b>A99842</b>
<i>Optima XPN-100K</i>		
<b>XPN-100K</b>	nMD	<b>A94469</b>
<b>XPN-100K</b>	IVD	<b>A99846</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21



## CELL VIABILITY ANALYZER

## Vi-CELL BLU

The Vi-CELL BLU automates the widely accepted trypan blue dye exclusion method for cell viability that has historically been performed with a light microscope, pipette, and a hemacytometer. This makes it perfect for large- to small-scale cell viability/counting applications in many fields including biopharma and academia.

- Fully automated sample preparation
- Fast sample processing
- Small sample volume requirements
- Strong instrument-to-instrument comparability
- More sample capacity

This instrument revolutionizes the speed, reliability and objectivity of your results, and provides critical information conventional methods simply cannot offer.

- High speed camera enables the system to capture images as the sample flows continuously through the flowcell.
- Decreasing tubing length and inner diameter enables the system to utilize smaller sample volumes for analysis
- Optimizing the syringe pump speed accelerates mixing and washing time while minimizing the introduction of bubbles
- Advanced software algorithms:
  - Use of a Concentration slope for improved linearity and accuracy of concentration
  - Ability to reanalyze data for cell type optimization
  - Bubble detection to alert the operator of the presence of bubble(s) in an image.
  - Ability to detect and ignore dust on the flowcell



Design Inspired by the Vi-CELL XR

- Fully automated sample prep and cell counting
- 24 position carousel for on-the-fly sample loading
- 96-well plate compatible

- Reagent pack complete
- Built-in PC (Win 10 OS) with touchscreen monitor
- Facilitates 21 CFR Part 11 Compliance
- Facilitates your ability to be compliant with IQ/OQ

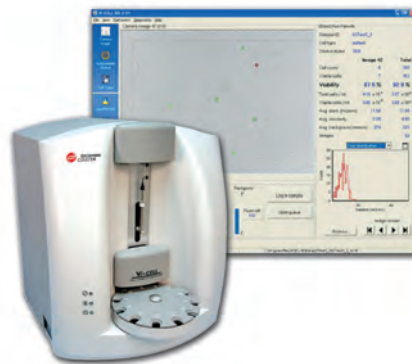
Models	Description	Status	Part #
<b>Vi-CELL BLU System</b>	includes the instrument and start-up kit	RUO	<b>C19201</b>
Reagents	Description	Status	Part #
<i>Concentration control beads</i>			
<b>0.5M single-use concentration control</b>	20 vials of $0.5 \times 10^6$ beads/mL	RUO	<b>C09147</b>
<b>2.0M single-use concentration control</b>	20 vials of $2 \times 10^6$ beads/mL	RUO	<b>C09148</b>
<b>4.0M single-use concentration control</b>	20 vials of $4 \times 10^6$ beads/mL	RUO	<b>C09149</b>
<b>10.0M single-use concentration control</b>	20 vials of $10 \times 10^6$ beads/mL	RUO	<b>C09150</b>
<b>Start-up kit</b>		RUO	<b>C23660</b>
<i>Vi-CELL BLU Reagent Kit</i>			
<b>Single Reagent Kit</b>	includes trypan blue, buffer, disinfectant and cleaning solutions	RUO	<b>C06019</b>
<b>Quad pack reagent kit</b>	x 4 kits	RUO	<b>C39291</b>
<i>Viability control beads</i>			
<b>50% single-use viability control</b>	20 vials of 50% viability beads	RUO	<b>C09145</b>
Accessories	Description	Status	Part #
<b>96-well Microplate</b>	x 5 plates	RUO	<b>C24841</b>
<b>96-well plate cover slip</b>	x 10 cover slips	RUO	<b>C24842</b>
<b>Sample vial</b>	350 sample vials/bag	RUO	<b>C24843</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## CELL VIABILITY ANALYZER

## Vi-CELL XR

The Beckman Coulter Vi-CELL XR automates the manual trypan blue viability method and removes the subjective variables inherent in the manual assay. The instrument also reports cell concentration, size distribution, and circularity measurements. Real time cell images may be archived for future re-analyses.



Models					Size	Status	Part #
<b>Vi-CELL XR</b>	Auto Sampler Yes	Size Range 2-70 $\mu\text{m}$	Sample Volume 0.5 mL	Analysis Time < 2.5 min	1 unit	LUO	<b>383556</b>
Accessories					Size	Status	Part #
<b>Vi-CELL XR Quad Pack</b>		4 reagent packs (120 vials per pack)		4 reagent packs (120 vials per pack)		LUO	<b>383722</b>
<b>Vi-CELL Concentration Control</b>		(1 x 20 mL)			1 vial	LUO	<b>175478</b>
<b>Vi-CELL Focus Control</b>		(1 x 15 mL)			1 vial	LUO	<b>175474</b>
<b>Vi-CELL Sample Cups</b>		4 x 120 vials			4 x 120 vials	LUO	<b>383721</b>
<b>Vi-CELL XR Single Pack</b>		Reagent Kit (includes 1 reagent pack and 1 bag of 120 sample vials per bag)			1 pack	LUO	<b>383260</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

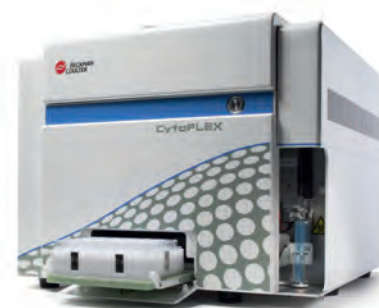
## CytoFLEX

### Optics

The CytoFLEX Platform is a revolutionary system presenting improved excitation and emission, reducing light loss and improving sensitivity. This compact system uses innovative technology borrowed from the telecommunications industry, resulting in performance comparable to instruments four times the size. The fully activated instrument includes five fluorescent channels from the 405 nm (Violet), five fluorescent channels from the 488 nm (Blue) laser, and three fluorescent channels from the 638 nm (Red) laser. The instrument includes 13 bandpass filters which can be repositioned as needed. Instruments with as few as four fluorescent channels activated are available with the ability to activate additional parameters as needed by purchasing an activation key.

### Laser Wavelength/Power

- Violet 405 nm/80 mW
- Blue 488 nm/50 mW
- Red 638 nm/50 mW
- Fluorescence and side scatter light delivered by fiber optics to Avalanche Photo Diode detector arrays. Proprietary design ensures high performance, high efficiency, low-noise signal detection. Emission profiles are collected using reflective optics and single transmission bandpass filters.
- Option to configure Avalanche Photo Diode detector array to collect side scatter signal from Violet (405 nm) laser. The configured channel (VSSC) can be used to better resolve nanoparticles.



### Fluidics

- Ultra-low pressure peristaltic sheath and sample delivery system
- System Startup, Sample Mixing, Backflush, Prime, Shutdown, Deep Clean
- Fixed Flow Rates: 10, 30 and 60  $\mu\text{L}/\text{min}$ ; Custom Flow Rate Control mode from 10 to 240  $\mu\text{L}/\text{min}$  in 1  $\mu\text{L}$  increments.
- Gravimetric calibration for absolute counts within CytExpert Software.
- Standard 4 L tanks; Optional 10 L cubitainers

### Electronics

- 30,000 events per second with all configured parameters
- Software capability to modify window extension parameter and to control abort rate during high event rate signal processing
- Fully digital system with 7-decade data display
- Pulse area, height for every channel, width for one selectable channel

### Performance

- Blue (488 nm) Side Scatter Resolution: <300 nm; Violet (405 nm) Side Scatter Resolution (VSSC): 80 nm polystyrene particles
- Scatter performance is optimized for resolving human lymphocytes, monocytes, and granulocytes as well as nanoparticles.
- FITC: <30 molecules of equivalent soluble fluorochrome (MESF-FITC) from the 488 nm laser.
- PE: <10 molecules of equivalent soluble fluorochrome (MESF-PE) from the 488 nm laser.

### CytExpert Software

- The CytExpert software is a full-feature software package that controls instrument operation, data collection and analysis.
- Automatic and manual full matrix compensation; Gain Independent Compensation
- Three different installation modes are available depending on the level of security required, including a mode for Electronic Records Management (21 CFR Part 11)
- An API (Application Programming Interface) is available

Workstation	Size	Status	Part #
CytoFLEX Workstation	1 unit	RUO	Please call

Configurations	Description	Status	Part #
<i>Violet-Blue-Red (V-B-R) Series</i>			
<b>CytoFLEX V2-B2-R2 System</b>	2 Laser (405 nm, 488 nm), 6 Colors	RUO	<b>C02944</b>
<b>CytoFLEX V2-B2-R2 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 6 Colors	RUO	<b>C02946</b>
<b>CytoFLEX V0-B5-R3 System</b>	2 Laser (488 nm, 638 nm), 8 Colors	RUO	<b>B96622</b>
<b>CytoFLEX V2-B4-R2 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 8 Colors	RUO	<b>C02945</b>
<b>CytoFLEX V2-B2-R0 System</b>	2 Laser (405 nm, 638 nm), 4 Colors	RUO	<b>B53017</b>
<b>CytoFLEX V0-B2-R2 System</b>	2 Laser (488 nm, 638 nm), 4 Colors	RUO	<b>B53016</b>
<b>CytoFLEX V3-B3-R0 System</b>	2 Laser (405 nm, 488 nm), 6 Colors	RUO	<b>B53012</b>
<b>CytoFLEX V0-B3-R1 System</b>	2 Laser (488 nm, 638 nm), 4 Colors	RUO	<b>B53015</b>
<b>CytoFLEX V0-B3-R2 System</b>	2 Laser (488 nm, 638 nm), 5 Colors	RUO	<b>B53014</b>
<b>CytoFLEX V2-B3-R2 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 7 Colors	RUO	<b>B53010</b>
<b>CytoFLEX V0-B3-R3 System</b>	2 Laser (488 nm, 638 nm), 6 Colors	RUO	<b>B53011</b>
<b>CytoFLEX V2-B3-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 8 Colors	RUO	<b>B53009</b>
<b>CytoFLEX V3-B3-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 9 Colors	RUO	<b>B53007</b>
<b>CytoFLEX V5-B3-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 11 Colors	RUO	<b>B53004</b>
<b>CytoFLEX V0-B4-R0 System</b>	1 Laser (488 nm), 4 Colors	RUO	<b>B53019</b>
<b>CytoFLEX V0-B4-R2 System</b>	2 Laser (488 nm, 638 nm), 6 Colors	RUO	<b>B53013</b>
<b>CytoFLEX V2-B4-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 9 Colors	RUO	<b>B53008</b>
<b>CytoFLEX V3-B4-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 10 Colors	RUO	<b>B53006</b>
<b>CytoFLEX V4-B4-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 11 Colors	RUO	<b>B53003</b>
<b>CytoFLEX V5-B4-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 12 Colors	RUO	<b>B53002</b>
<b>CytoFLEX V0-B5-R0 System</b>	1 Laser (488 nm), 5 Colors	RUO	<b>B53018</b>
<b>CytoFLEX V5-B5-R0 System</b>	2 Laser (405 nm, 488 nm), 10 Colors	RUO	<b>B53037</b>
<b>CytoFLEX V2-B5-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 10 Colors	RUO	<b>B53005</b>
<b>CytoFLEX V4-B5-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 12 Colors	RUO	<b>B53001</b>
<b>CytoFLEX V5-B5-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 13 Colors	RUO	<b>B53000</b>



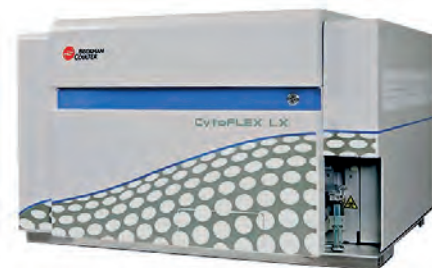
## CytoFLEX LX

### Optics

The CytoFLEX LX models bring up to six laser instruments to the research community providing up to 21 fluorescent channels. Users have a choice of the UV 355 nm or Near UV 375 nm laser, as well as 405 nm Violet, 488 nm Blue, 561 nm Yellow Green, 638 nm Red, and 808 nm Infrared lasers. As part of the CytoFLEX platform, these instruments offer high sensitivity, extensive set up bandpass filters, and the flexibility to upgrade by activating additional parameters.

### Laser Wavelength/Power

- Violet 405 nm/80 mW
- Blue 488 nm/50 mW
- Red 638 nm/50 mW
- Near UV 375 nm/60 mW
- Yellow Green 561 nm/30 mW
- Infrared 808 nm/60 mW
- Fluorescence and side scatter light delivered by fiber optics to Avalanche Photo Diode detector arrays. Emission profiles are collected using reflective optics and single transmission bandpass filters.
- Option to configure Avalanche Photo Diode detector array to collect side scatter signal from Violet (405 nm) laser. The configured channel (VSSC) can be used to better resolve nanoparticles.



### Fluidics

- Ultra-low pressure peristaltic sheath and sample delivery system
- System Startup, Sample Mixing, Backflush, Prime, Shutdown, Deep Clean
- Fixed Flow Rates: 10, 30 and 60  $\mu\text{L}/\text{min}$ ; Custom Flow Rate Control mode from 10 to 240  $\mu\text{L}/\text{min}$  in 1  $\mu\text{L}$  increments.
- Gravimetric calibration for absolute counts within CytExpert Software.
- 10 L cubitainers sheath fluid

### Electronics

- 30,000 events per second with all configured parameters
- Software capability to modify window extension parameter and to control abort rate during high event rate signal processing
- Fully digital system with 7-decade data display
- Pulse area, height for every channel, width for one selectable channel

### Performance

- Blue (488 nm) Side Scatter Resolution: <300 nm; Violet (405 nm) Side Scatter Resolution (VSSC): 80 nm polystyrene particles
- Scatter performance is optimized for resolving human lymphocytes, monocytes, and granulocytes as well as nanoparticles.
- FITC: <30 molecules of equivalent soluble fluorochrome (MESF-FITC) from the 488 nm laser.
- PE: <10 molecules of equivalent soluble fluorochrome (MESF-PE) from the 488 nm laser.

### CytExpert Software

- The CytExpert software is a full-feature software package that controls instrument operation, data collection and analysis.
- Automatic and manual full matrix compensation; Gain Independent Compensation
- Three different installation modes are available depending on the level of security required, including a mode for Electronic Records Management (21 CFR Part 11)
- An API (Application Programming Interface) is available

Configurations	Description	Status	Part #
<b>Near UV-Violet-Blue-Yellow Green-Red-Infrared (N-V-B-Y-R-I) Series</b>			
<b>CytoFLEX LX N0-V5-B3-Y5-R3-I0 System</b>	4 Laser (405 nm, 488 nm, 561 nm, 638 nm), 16 Colors	RUO	<b>C23009</b>
<b>CytoFLEX LX N3-V5-B3-Y5-R3-I2 System</b>	5 Laser (375 nm, 405 nm, 488 nm, 561 nm, 638 nm), 19 Colors	RUO	<b>C00446</b>
<b>CytoFLEX LX N3-V5-B3-Y5-R3-I2 System</b>	6 Laser (375 nm, 405 nm, 488 nm, 561 nm, 638 nm, 808 nm), 21 Colors	RUO	<b>C00445</b>
<b>UV-Violet-Blue-Yellow Green-Red-Infrared (U-V-B-Y-R-I) Series</b>			
<b>CytoFLEX LX U3-V5-B3-Y0-R3-I0 System</b>	4 Laser (355 nm, 405 nm, 488 nm, 638 nm), 14 Colors	RUO	<b>C11183</b>
<b>CytoFLEX LX U3-V5-B3-Y0-R3-I0 System</b>	4 Laser (355 nm, 405 nm, 488 nm, 561 nm), 14 Colors	RUO	<b>C11184</b>
<b>CytoFLEX LX U3-V5-B3-Y5-R3-I0 System</b>	5 Laser (355 nm, 405 nm, 488 nm, 561 nm, 638 nm), 19 Colors	RUO	<b>C11185</b>
<b>CytoFLEX LX U3-V5-B3-Y5-R3-I2 System</b>	6 Laser (355 nm, 405 nm, 488 nm, 561 nm, 638 nm, 808 nm), 21 Colors	RUO	<b>C11186</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

**Accessories****Size****Status****Part #****WDM Beam Splitter**

1 unit

RUO

**C36774**

The CytoFLEX LX WDM Beam Splitter expands the detection capacity of the UV/Near UV or Violet laser lines by borrowing the two detectors from the IR laser line when not in use. The median fluorescence intensity (MFI) of the unsplit signal can be achieved on the analogous split signal by adjusting the gain. To change between configurations, just reposition the fibers and select the appropriate detector configuration in CytExpert Software. Additionally, the VSSC capability to resolve 80 nm PS particles is retained when the WDM Beam Splitter is engaged in the configuration. Includes two additional bandpass filters, 712/25 and 740/35.

Compatible Configurations: CytoFLEX LX U3-V5-B3-Y5-R3-I2 and CytoFLEX LX N3-V5-B3-Y5-R3-I2

## CytoFLEX S

### Optics

The CytoFLEX S models bring up to four laser instruments to the research community expanding the fluorochrome palette for special applications. The CytoFLEX S system provides additional choice of the 561 nm (Yellow Green) 375 nm (Near UV), or the 808 nm (Infrared) lasers. It uses the same innovative technology borrowed from the telecommunications industry as the CytoFLEX System, resulting in performance comparable to instruments four times the size. Also like the CytoFLEX, each instrument includes the full set up repositionable bandpass filters and users can purchase the number of channels required now and activate additional channels laser within the series.



### Laser Wavelength/Power

- Violet 405 nm/80 mW
- Blue 488 nm/50 mW
- Red 638 nm/50 mW
- Near UV 375 nm/60 mW
- Yellow Green 561 nm/30 mW
- Infrared 808 nm/60 mW
- Fluorescence and side scatter light delivered by fiber optics to Avalanche Photo Diode detector arrays. Proprietary design ensures high performance, high efficiency, low-noise signal detection. Emission profiles are collected using reflective optics and single transmission bandpass filters.
- Option to configure Avalanche Photo Diode detector array to collect side scatter signal from Violet (405 nm) laser. The configured channel (VSSC) can be used to better resolve nanoparticles.

### Fluidics

- Ultra-low pressure peristaltic sheath and sample delivery system
- System Startup, Sample Mixing, Backflush, Prime, Shutdown, Deep Clean
- Fixed Flow Rates: 10, 30 and 60  $\mu\text{L}/\text{min}$ ; Custom Flow Rate Control mode from 10 to 240  $\mu\text{L}/\text{min}$  in 1  $\mu\text{L}$  increments.
- Gravimetric calibration for absolute counts within CytExpert Software.
- Standard 4 L tanks; Optional 10 L cubitainers

### Electronics

- 30,000 events per second with all configured parameters
- Software capability to modify window extension parameter and to control abort rate during high event rate signal processing
- Fully digital system with 7-decade data display
- Pulse area, height for every channel, width for one selectable channel

### Performance

- Blue (488 nm) Side Scatter Resolution: <300 nm; Violet (405 nm) Side Scatter Resolution (VSSC): 80 nm polystyrene particles
- Scatter performance is optimized for resolving human lymphocytes, monocytes, and granulocytes as well as nanoparticles.
- FITC: <30 molecules of equivalent soluble fluorochrome (MESF-FITC) from the 488 nm laser.
- PE: <10 molecules of equivalent soluble fluorochrome (MESF-PE) from the 488 nm laser.

### CytExpert Software

- The CytExpert software is a full-feature software package that controls instrument operation, data collection and analysis.
- Automatic and manual full matrix compensation; Gain Independent Compensation
- Three different installation modes are available depending on the level of security required, including a mode for Electronic Records Management (21 CFR Part 11)
- An API (Application Programming Interface) is available

Configurations	Description	Status	Part #
<b>Near UV-Violet-Blue-Red (N-V-B-R) Series</b>			
<b>CytoFLEX S N2-V0-B4-R0 System</b>	2 Laser (375 nm, 488 nm), 6 Colors	RUO	<b>B78558</b>
<b>CytoFLEX S N2-V0-B5-R3 System</b>	3 Laser (375 nm, 488 nm, 638 nm), 10 Colors	RUO	<b>B78559</b>
<b>CytoFLEX S N2-V3-B5-R3 System</b>	4 Laser (375 nm, 405 nm, 488 nm, 638 nm), 13 Colors	RUO	<b>B78557</b>

*Near UV-Violet-Blue-Yellow Green (N-V-B-Y) Series*

<b>CytoFLEX S N0-V0-B2-Y2 System</b>	2 Laser (488 nm, 561 nm), 4 Colors	RUO	<b>C02949</b>
<b>CytoFLEX S N0-V4-B2-Y4 System</b>	2 Laser (488 nm, 561 nm), 6 Colors	RUO	<b>B96618</b>
<b>CytoFLEX S N0-V4-B2-Y4 System</b>	3 Laser (375 nm, 405 nm, 488 nm, 561 nm), 10 Colors	RUO	<b>B96619</b>
<b>CytoFLEX S V4-B2-Y4-R0 System</b>	3 Laser (405 nm, 488 nm, 561 nm), 10 Colors	RUO	<b>B96620</b>
<b>CytoFLEX S N2-V0-B2-Y4 System</b>	3 Laser (375 nm, 488 nm, 561 nm), 8 Colors	RUO	<b>B78561</b>
<b>CytoFLEX S N2-V4-B2-Y4 System</b>	4 Laser (375 nm, 405 nm, 488 nm, 561 nm), 12 Colors	RUO	<b>B78560</b>

*Violet-Blue-Red-Infrared (V-B-R-I) Series*

<b>CytoFLEX S V0-B4-R0-I2 System</b>	2 Laser (488 nm, 808 nm), 6 Colors	RUO	<b>C01158</b>
<b>CytoFLEX S V0-B4-R3-I2 System</b>	3 Laser (488 nm, 638 nm, 808 nm), 9 Colors	RUO	<b>C01159</b>
<b>CytoFLEX S V4-B4-R0-I2 System</b>	3 Laser (405 nm, 488 nm, 808 nm), 10 Colors	RUO	<b>C01160</b>
<b>CytoFLEX S V4-B4-R3-I2 System</b>	4 Laser (405 nm, 488 nm, 638 nm, 808 nm), 13 Colors	RUO	<b>C01161</b>

*Violet-Blue-Yellow Green-Red (V-B-Y-R) Series*

<b>CytoFLEX S V0-B2-Y4-R3 System</b>	3 Laser (405 nm, 488 nm, 561 nm), 6 Colors	RUO	<b>C02947</b>
<b>CytoFLEX S V4-B2-Y0-R3 System</b>	3 Laser (405 nm, 488 nm, 638 nm), 9 Colors	RUO	<b>C02948</b>
<b>CytoFLEX S V2-B2-Y3-R2 System</b>	4 Laser (405 nm, 488 nm, 561 nm, 638 nm), 9 Colors	RUO	<b>B96621</b>
<b>CytoFLEX S V0-B2-Y4-R0 System</b>	2 Laser (488 nm, 561 nm), 6 Colors	RUO	<b>B75812</b>
<b>CytoFLEX S V0-B2-Y4-R3 System</b>	3 Laser (488 nm, 561 nm, 638 nm), 9 Colors	RUO	<b>B75811</b>
<b>CytoFLEX S V4-B2-Y4-R3 System</b>	4 Laser (405 nm, 488 nm, 561 nm, 638 nm), 13 Colors	RUO	<b>B75408</b>



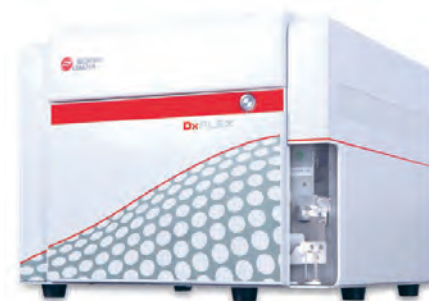
## DxFLEX

The DxFLEX Flow Cytometer is designed for clinical applications. It offers performance, compact design, and streamlined installation and operation. System settings, data acquisition, and result exporting functions are integrated into the CytExpert for DxFLEX software workflow. Seven configurations are available with up to 3 lasers and 13 detectors, depending on geography. Users can upgrade their configuration at a later date to activate additional channels including more lasers or optical filters.

An assembly of technologies are used to reduce light loss and therefore improve sensitivity. A new approach to light management underpins every decision in the design. The result is an instrument with resolving power to separate dim and bright populations. The separation facilitates setting gates and calculating statistics.

The DxFLEX flow cytometer is flexible enough to accommodate a variety of assays. Instruments with as few as four and as many as 13 fluorescent detectors are available, with the ability to upgrade as the needs grow. Instrument performance provides the capabilities to resolve populations facilitating complex gating analyses.

The optional autoloader accepts a standard 32-tube carousel to decrease hands on time during acquisition, and can support sample loading from 96-well plates with an optional adapter



<i>Models</i>	<i>Status</i>		<i>Part #</i>
<b>DxFLEX</b>	-		Please call
<i>Accessories</i>	<i>Size</i>	<i>Status</i>	<i>Part #</i>
<b>Contrad 70 Cleaning Solution</b>	1 L	nMD	<b>81911</b>
<b>DxFLEX Daily QC Fluorospheres</b>		IVD	<b>C39283</b>
<b>DxFLEX Sheath Fluid</b>	10 L	IVD	<b>B73613</b>
<b>Flow-Clean Cleaning Agent</b>	500 mL	IVD	<b>A64669</b>
<b>Plate adapter for Autoloader</b>		-	Please call

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## Navios

The Navios flow cytometer provides high sensitivity and resolution to run multi-color analyses on both clinical and clinical research samples. The Navios can be configured as either a two-laser system providing six- or eight-color detection, or as a three-laser system offering up to 10-color analysis\*.

Innovative picomotor-driven beam steering optics facilitate fine adjustments of laser position from instrument-based controls. The Navios' acquisition speed of up to 25,000 events per second combines with a low data abort rate to improve data collection efficiency, lower sample volume requirements and reduce reagent consumption. Additionally, the 20-bit digital electronics and 40-MHz pulse sampling deliver low-end sensitivity and resolution.

Tubes in the instrument's 32-position carousel are vortexed individually, which both ensures sample homogeneity and avoids over-mixing. Automated barcode reading provides verification of carousel number, position and tube label for true positive sample identification. Navios data files also contain cytometer settings, plots, gates and regions, providing a complete record of sample analysis.

Navios flow cytometers interface with Beckman Coulter automation systems to provide secure, high-throughput results, even at the highest volumes. The instruments are LIS-ready, and in conjunction with Beckman Coulter's automated preparation systems and Data Innovations middleware, can provide a complete sample-in/result-out solution for clinical labs.

\* In the U.S., Navios is intended for use as an in-vitro diagnostic device for immunophenotyping with Navios tetra software and CYTOSTAT tetraCHROME reagents and ClearLab 10C reagents.



### Optics

- Lasers/Power Output
  - Blue Solid State Diode, 488 nm, 22 mW
  - Red Solid State Diode, 638 nm, 25 mW
  - Violet Solid State Diode, 405 nm, 40 mW
  - 125  $\mu$ m spatially separated beam spots

### Flow Cell

- 150 x 460  $\mu$ m quartz, gel coupled 1.2 NA lens

### Fluorescence Delivery

- Highly efficient multi-mode fiber optics to maximize light delivery
- Easy interchangeable 18-degree tilted optical filters

### Detectors

- Forward Scatter: Fourier design providing up to three measurements of forward angle
- Side Scatter: Independently focused high performance photodiode with electronic attenuation
- Fluorescence: FL1-FL10 Fluorescent Detectors\*

### Sample Processing

- Three selectable flow rates
- 32 tube Multi Carousel Loader or single tube mode
- Automated or manual worklist acquisition
- True Positive ID
- Biohazard contained workstation

### Signal Processing

- Dynamic range: 20-bit data acquisition
- Workstation resolution: 1,048,576 channels
- Digital sampling rate: 40 MHz
- Digital accuracy: < 5% error

### Performance Characteristics

- Throughput: Up to 80 tubes/hour at 10,000 events per second

Instrument	Description	Status	Part #
<b>Violet-Blue-Red (V-B-R) Series</b>			
<b>Navios 6 colors, 2 lasers (5+1 configuration)</b>	Navios B5-R1	IVD	<b>B47903</b>
<b>Navios 8 colors, 2 lasers (5+3 configuration)</b>	Navios B5-R3	IVD	<b>B47904</b>
<b>Navios 10 colors, 3 lasers (5+3+2 configuration)</b>		IVD	<b>B47905</b>
Software		Status	Part #
<b>Navios tetra Software</b>		IVD	<b>775213</b>
<b>Navios Win 7 Workstation and SW Upgrade</b>		IVD	<b>B47899</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

*Optional Data Innovations products**Status**Part #***Data Innovations Additional Connection, Licence and Service**

nMD

Please call

**Data Innovations Hardware Computer System**

nMD

**B35622****Data Innovations Instrument Manager Software, Licenses and Service**

nMD

Please call

## Navios EX

The Navios EX flow cytometer is built on the Navios platform but includes a new optical bench and enhanced functionality. The Navios EX can be configured as either a two-laser system providing six- or eight-color detection, or as a three-laser system offering up to 10-color analysis\*.

The Navios EX has updated acquisition software and leverages the optical design from our CytoFLEX platform for enhanced performance. With an acquisition speed of up to 25,000 events per second combined with a low data abort rate the Navios EX improves data collection efficiency and lowers sample volume requirements. Additionally, the 20-bit digital electronics and 40-MHz pulse sampling deliver low-end sensitivity and resolution.

Tubes in the instrument's 32-position carousel are vortexed individually, which both ensures sample homogeneity and avoids over-mixing. Automated barcode reading provides verification of carousel number, position and tube label for true positive sample identification. Navios EX data files also contain cytometer settings, plots, gates and regions, providing a complete record of sample analysis.

Navios EX flow cytometers interface with Beckman Coulter automation systems to provide secure, high-throughput results, even at the highest volumes. The instruments are LIS-ready, and in conjunction with Beckman Coulter's automated preparation systems and Data Innovations middleware, can provide a complete sample-in/result-out solution for clinical labs.

\* CE/IVD marked for 6, 8 or 10-color in-vitro diagnostic use. In the U.S., Navios EX is intended for use as in-vitro diagnostic device for immunophenotyping with Navios EX tetra Software and CYTOSTAT tetraCHROME reagents. All other uses are for research use only.



### Optics

- Lasers/Power Output
  - Blue Solid State Diode, 488 nm, 55 mW
  - Red Solid State Diode, 638 nm, 50 mW
  - Violet Solid State Diode, 405 nm, 80 mW
  - Nominal 90  $\mu$ m spatially separated beam spots

### Flow Cell

- 430  $\mu$ m x 180  $\mu$ m rectangular channel

### Fluorescence Delivery

- Highly efficient multi-mode fiber optics to maximize light delivery
- Easy interchangeable 18-degree tilted optical filters

### Detectors

- Forward Scatter: Fourier design providing up to three measurements of forward angle
- Side Scatter: Independently focused high performance photodiode with electronic attenuation
- Fluorescence: FL1-FL10 Fluorescent Detectors\*

### Sample Processing

- Three selectable flow rates
- 32 tube Multi Carousel Loader or single tube mode
- Dead volume as low as 2  $\mu$ L when using Beckman Coulter 12 x 75 mm polypropylene tube and adjustable probe
- Automated or manual worklist acquisition
- True Positive ID
- Biohazard contained workstation

### Signal Processing

- Dynamic range: 20-bit data acquisition
- Workstation resolution: 1,048,576 channels
- Digital sampling rate: 40 MHz
- Digital accuracy: < 5% error

### Performance Characteristics

- Throughput: Up to 82 tubes/hour at 10,000 events per second; 89 tubes/hour for a concentrated sample
- Scatter resolution: Resolves 0.404  $\mu$ m diameter particles from background noise using forward scatter with maximum detection of up to 40  $\mu$ m diameter particles

Violet-Blue-Red (V-B-R) Series		Status	Part #
<i>Navios EX</i>			
6 colors, 2 lasers (5+1 configuration)		IVD	B86735
8 colors, 2 lasers (5+3 configuration)		IVD	B86672
10 colors, 3 lasers (5+3+2 configuration)		IVD	B83535
Software		Status	Part #
<i>Navios EX offline acquisition software</i>			
Win 7 Workstation		nMD	B80220
1 User, Software v2.0,		IVD	B91238
5 User, Software v2.0		IVD	B91239
tetra Software		IVD	B91240
New User, Software Win 7		IVD	B91237

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21



*Optional Data Innovations products**Status**Part #***Data Innovations Additional Connection, Licence and Service**

nMD

Please call

**Data Innovations Instrument Manager Software, Licenses and Service**

nMD

Please call

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## NEW

## CELL SORTER

## CytoFLEX SRT

CytoFLEX SRT has the capacity for 17 detection channels, including 15 for fluorescence detection. The fully activated instrument includes five fluorescent channels from the 405 nm (Violet) laser, two from the 488 nm (Blue) laser, five from the 561 nm (Yellow) laser, and three from the 638 nm (Red) laser. Upgradeable configurations starting from two lasers can be chosen based on research requirements.

Laser	Wavelength/Power
Violet	405 nm / 90 mW
Blue	488 nm / 50 mW
Yellow	561 nm / 30 mW
Red	638 nm / 100 mW

- Fluorescence and side scatter light is delivered by fiber optics to Avalanche Photodiode detector arrays. Proprietary design ensures high performance, high efficiency, low-noise signal detection. Emission profiles are collected using reflective optics and single transmission bandpass filters.
- Option to configure Avalanche Photo Diode detector array to collect side scatter signal from Violet (405 nm) laser. The configured channel (VSSC) can be utilized to better resolve nanoparticles.



## FLUIDICS

- Built-in pump with anti-vibration design provides system pressure and vacuum.
- Fluidic cart with on-board fluid containers (4 L steel sheath container, autoclavable; 7 L high-density polyethylene waste container; 1 L high-density polyethylene shutdown fluid container).
- Adjustable sample flow rates from approximately 10-100  $\mu\text{L}/\text{min}$ .

## ELECTRONICS

- 40,000 events per second with all configured parameters
- Software capability to modify window extension parameter.
- Fully digital system with 7 decades data display.
- Pulse area, height for every channel, width for up to two selectable channels.

## PERFORMANCE

- Blue (488nm) Side Scatter Resolution: 300 nm; Violet (405 nm) Side Scatter Resolution (VSSC): 200 nm (available only for configurations containing the violet laser).
- Scatter performance is optimized for resolving human lymphocytes, monocytes, and granulocytes as well as nanoparticles.
- FITC: <30 molecules of equivalent soluble fluorochrome (MESF-FITC) from the 488 nm laser.
- PE: <10 molecules of equivalent soluble fluorochrome (MESF-PE) from the 561 nm laser.
- APC: <25 molecules of equivalent soluble fluorochrome (MESF-APC) from the 638 nm laser.
- The CytoFLEX SRT Cell Sorter can achieve <3% rCV with alignment verification particles capable of rCVs <3%.

## AUTOMATED SORT SETUP

- The system can perform system startup, QC and sort calibration to be ready to sort within 30 minutes. All sort settings can be defined automatically.
- New side stream system can automatically define charge parameters, monitor the sides streams and maintain them.
- Improved Intellisort<sup>®</sup> technology is used for automatic droplet optimization, monitor and maintain, and drop delay determination.
- Droplet frequency: 30,000 Hz to 35,000 Hz automatically optimized, adjustable.
- CytoFLEX SRT is capable of simultaneously bulk sorting up to 4 defined populations of particles >99% purity with 5% target population, sample threshold  $\leq 10,000$  events per second, while the yield rate is above 80% theoretic rate.
- Purity level could be maintained with higher sorting speed up to 30,000 events per second, while the yield rate would be lower based on Poisson Distribution.

## SOFTWARE

- The CytExpert SRT software is a full-featured software package that controls the instrument's operation, collection of experiment data, and analysis of the results.
- Experiments generated by CytExpert 2.4 or earlier versions can be converted to the format of CytExpert SRT experiments and opened by the software.
- If desired, export FCS files for analysis in Kaluza, Cytobank and other platforms.

Configurations	Status	Part #
<i>Violet-Blue-Yellow-Red (V-B-Y-R) Series</i>		
<b>CytoFLEX SRT V0-B2-Y0-R3</b>	RUO	<b>C71889</b>
<b>CytoFLEX SRT V0-B2-Y5-R3</b>	RUO	<b>C71886</b>
<b>CytoFLEX SRT V5-B2-Y0-R0</b>	RUO	<b>C71887</b>
<b>CytoFLEX SRT V5-B2-Y5-R0</b>	RUO	<b>C71884</b>
<b>CytoFLEX SRT V5-B2-Y5-R3</b>	RUO	<b>C71883</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

## CELL SORTER

## MoFlo Astrios EQ

Simplify your most complex sorting tasks with Beckman Coulters' MoFlo Astrios sorter family, offering 7 spatially separated lasers and six-way jet-in-air sorting proficiency that delivers powerful capability while reducing complexity.

Leveraging the historically stable fluidic and electronic design of the original MoFlo Astrios - the new flagship MoFlo Astrios EQs and extended EQ sorters expand sorting capability with not only a broad full palette choice of laser options and 6-way sort capability but also adding a unique patent pending enhanced Forward Scatter (eFSC) technology for submicron particle detection. Complex, multi-color sorting is enabled by seven pinholes that spatially separate each of up to seven lasers. The flat-top multilaser shaping optic (MLSO) creates flat-top beam profiles, providing short alignment times and high-level optic stability. Two micrometer stages control the alignment for all seven lasers to simplify sorter preparation and reduce setup time. Advanced software components enhance the instrument's capabilities. The Touch Screen Control Panel facilitates daily set up with its operation optimized for a core laboratory workflow and ideal for compatibility with an optional integrated biohazard hood.

Auto QC allows system performance to be tracked and trended for up to 44 simultaneous parameters from a maximum of 51 parameter choices. A simple 2-stage alignment is complemented by our IntelliSort II beadless drop-delay technology.

Irrespective whether your assays require tube, plate or slide-based deposition, the MoFlo Astrios sorter family delivers choice and performance without compromise to deliver superior results that advance discovery in science, today and tomorrow.

**Optics:**

- 7 laser / 7 pinhole configurable system; 355nm, 405nm, 488nm, 532nm, 560nm, 592nm, 645nm (wavelengths are nominal and may vary).
- Single Multi-Laser Shaping Optic (MLSO) for fiber-coupled lasers.
- Flat-Top beam profile on fiber coupled lasers increases beam stability and alignment ease.
- 7 lasers aligned through two alignment stages for quick sorter set up.

**Software:**

- IntelliSort II - The only sorter with a fully beadless drop delay determination and monitoring.
- Touch Screen Control Panel for instrument set up and sort monitoring (intuitive operation and cross-training).
- Auto Startup enables lasers to automatically turn on and fluidics to pressurize.
- Single button Auto QC for tracking and trending with enhanced troubleshooting guidance.
- Summit Software 6.2.4 (or later).

**Performance:**

- 6-way sorting with a variety of collection devices (temperature control for all sort outputs available with water bath option).
- Mixed Mode sorting: each sort stream is capable of having its own sort mode (Enrich, Purify, Single) programmed. Soft aborts can be collected for reanalysis or resorting.
- Index sorting with intuitive mapping of events.
- Reproducibly sort up to 1536-well plates (due to historically stable fluidics).
- Only sorter capable of 70,000 sort decisions/second validated performance.

**Electronics and Software:**

- Electronic capability to simultaneously detect 44 parameters.
- 32 bit processing and 100 MHz sampling speeds.
- Negligible electronic dead time equates to very low hard aborts.
- 100,000 events per second acquisition rate validated performance.
- 5-decade dynamic range PMTs.
- Up to 2 FSC channels including user-selectable FSC masks and optional additional SSC detection off each wavelength greater than or equal to 405nm.
- Height, Area, Width, Log, Log Area collected simultaneously for all parameters.
- Describes regions mathematically at the full resolution of the parameter.
- 1 billion events .fcs files with no parameter limit.

**Biosafety**

- Custom Baker SterilGARD BSL2 cabinet provides best-in-class biocontainment and uninhibited access to sorter fluidics and optical arrays.
- Cabinet provides single turnkey aerosol evacuation direct from sorter sort chamber to HEPA enclosure.
- Cabinet tested to NSF-49 specifications.
- Optional Aerosol Evacuation System (AES) pulls particulates from three (3) chambers with verified performance to meet the ISAC guidelines in absence of Biosafety cabinet.
- Quick release nozzle design for easy access to nozzle tip.
- Sort chamber free of hard edges designed for aerosol containment and cleanability.
- CyClone plate arm with wiper that seals back of sort chamber.

Instrument	Status	Part #
MoFlo Astrios EQ	RUO	B25982
MoFlo Astrios EQs	RUO	B52102

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

*Accessories**Status**Part #**Baker SterilGARD BSL2 Cabinet***100V version**

RUO

**B10300****110-120V version**

RUO

**B10302****220-240V version**

RUO

**B10301**



## CELL SORTER

## MoFlo XDP

MoFlo XDP combines reliability and stable performance. The open architecture of the instrument enables configuration modularity to meet the diverse sorting applications. The optical bench can accommodate any laser used in Flow Cytometry. The light detection and filter designs provide the sensitivity required of a sorter.

The electronics ensure you identify and accurately sort each cell of interest at higher sort speeds. Cell sorting research with the 32-bit-high resolution 5-decade multichannel digital system enables sorting of rare events and stem cells. Whether performing long sorts or additional precision is required for sorting into 1536-well plates, the stable fluidics of the MoFlo XDP will facilitate your needs.

Combined with digital processing and fluidic stability; the software and Touch Screen Control Panel reduce the set up time on a MoFlo XDP.

**Modularity**

- Compatible with any Flow Cytometry laser: water cooled, free-space, fiber coupled
- Fiber coupled lasers with Beam Shaping Optics providing increased stability and alignment ease
- Filter changes simplified with the Precision Optical Detector (POD) structure

**Biosafety**

- Aerosol Evacuation System (AES) removes aerosols from sort chamber
- Replaceable probe and sample line
- SmartSampler sample input protects the sample and user

**Electronics**

- Negligible dead time
- > 100,000 analysis events per second
- Digital triggering on any parameter
- Digital pulse processing
- True dynamic range of 5 decades
- Unmatched linearity

**Sort Performance**

- IntelliSort II: Beadless drop delay determination and monitoring
- Validated for 70,000 sorts per second
- > 99% purity at all data rates
- High recovery, yield and viability
- Proven 4-Way Sort for multiple population sorting
- Independent Sort Mode capability in each tube
- CyClone custom plate and slide sorting

**Touch Screen Control Panel**

- Easy-to-use intuitive cytometer set up and control
- Independent control of each stream
- Simple coarse and fine alignment
- CyClone calibration up to 1536-well plate
- Real-time sort statistics

**Summit Software**

- Established software with powerful data handling
- 18x18 Auto-compensation matrix
- Determine regions with full parameter resolutions
- > 1 Billion event listmode files
- Workspace concept for flexible experiment design

Instrument	Status	Part #
MoFlo XDP	RUO	ML99030

## LOAD &amp; GO SYSTEM

## AQUIOS CL

AQUIOS CL is the first true Load & Go flow cytometer. It is easy to learn, easy to use, ideal for cross-training your lab staff, and represents a breakthrough solution to the most basic operational challenges of flow cytometry. With AQUIOS CL in your lab, Load & Go simplicity means you can:

- Provide a 24/7 flow cytometry service as the AQUIOS CL can be run safely by minimally trained users.
- Minimize the potential for user error inherent in existing systems that require numerous manual steps to set up and run.
- Increase productivity with high-throughput performance that eliminates many of the least efficient features of existing systems.
- Minimize hands-on time with a fully integrated system that incorporates automated loading, sample preparation, reagent management, barcode scanning, data analysis, and full LIS connectivity.
- Get system users up to speed in one day with computer-based training and an application specialist site visit.
- Allocate staff resources for maximum productivity, putting your skilled operators where you need them most.
- Minimize exposure to potentially biohazardous material. The AQUIOS CL uses cap piercing technology which will greatly reduce your need to handle open blood tubes.



**The AQUIOS CL Flow cytometer in combination with AQUIOS Tetra-1 Panel has been accepted for the WHO list of prequalified in vitro diagnostic products.**

#### Full Bidirectional LIS Connectivity

- Automatic retrieval of test requests and transmission of test results
- No need for additional workstations or software to connect to the LIS System
- No need to create or download worklists manually

#### Automated System Setup

- Preprogrammed protocols per application
- No daily setup reagents required
- No manual system or controls optimization
- Power on, system warmup, load controls, load samples – that's it!

#### Smart Track Reagent Monitoring

- Uses a range of barcoded reagents and consumables
- Automatic barcode scanning to track those reagents, lot numbers, open and closed vial expiration dates, and number of tests or volume per reagent container
- Continuous tracking of reagent usage
- Automatic reagent monitoring including the number of tests remaining and warnings when tracked reagents are low, out or expired

#### Cassette Autoloader

- Total capacity 40 sample tubes
- Accommodates a variety of tube sizes
- Continuous, random loading and unloading
- Separate single-tube loader for STAT samples, open vials, and tubes that are not barcoded

#### Automated Sample Preparation

- Automatic matching of sample identification code with the test request
- All sample preparation and analysis performed in 96-well microplates
- Automatic launch of applicable testing protocol
- Positive specimen ID and automatic specimen mixing immediately prior to aspiration
- Automatic dispensing and mixing of applicable reagents
- No manual pipetting of primary tubes

#### Pipeline Sample Processing

- Eliminate slow, inefficient batch processing of samples
- 20 minutes to the first result after sample load (measured with Tetra -1 or Tetra-2+)
- After the first result, it's 25 results/hour for up to one full 96-well plate (measured with Tetra Combo)
- Two multitasking probes: one for cap piercing and sample preparation, the other for aspirating prepared samples for analysis
- Each sample is analyzed as soon as it is ready
- Intelligent analysis algorithm sets all gates and regions automatically
- System flags samples that don't meet autovalidation criteria

#### Real Time Sample Monitoring

- Intuitive software interface indicates the status of each sample
- Know at a glance where each sample is in the process and how much time until results are available

#### Comprehensive Quality Control

- Barcode tracking means no manual QC or reagent logs
- Generate a full, easily reviewable audit trail that includes reagent traceability
- Should QC fail, operator can be alerted via text message or email

#### AQUIOS CL System Specifications

##### Dimensions:

System: W: 32" (82 cm); D: 22" (56 cm); H: 22" (56 cm)  
 Workstation: W: 23" (59cm); D: 5" (13cm); H: 18" (46cm)  
 Supply Cart: W: 21" (54cm); D: 18" (46cm); H: 16" (41cm)

#### Sample Loading

Autoloader holds up to 8 cassettes at a time with up to 5 sample tubes each and allows for continuous loading and unloading. A separate single-tube loader enables both open- and closed-vial sampling.

Instrument	Status	Part #
<b>Blue (B) Series</b>		
<b>AQUIOS CL (220-240v)</b>	IVD	<b>B39102</b>
<b>AQUIOS CL (100-120v)</b>	IVD	<b>B39101</b>

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

Software		Size	Status	Part #
<b>AQUIOS Designer Software 2.0</b>		1 unit	CE/IVD	<b>B69476</b>
The AQUIOS Designer Software 2.0 (ADS 2.0) functions as the interface for creating user-defined tests running user-defined components provided by Beckman Coulter that can include up to 5 colors of blue laser excitable dyes for analysis on the AQUIOS CL Flow Cytometer. The user is able to define their own test protocol(s) by adjusting various settings for specimens, sample preparation, reagents, and analysis parameters.				
<b>AQUIOS Designer Software 2.0</b>		1 unit	-	<b>C04893</b>
Reagents	Description	Size	Status	Part #
<b>AQUIOS Cleaning Agent</b>	500 mL	500 mL	IVD	<b>B25698</b>
A cleaning agent for use on the AQUIOS flow cytometer components that come in contact with blood samples. This azide-free, formaldehyde-free, biodegradable cleaner contains a proteolytic enzyme that aids in the removal of protein buildup in the fluidics system and flow cell of a flow cytometer. The Cleaning Agent resides onboard the instrument and is used in automatic cleaning cycles.				
<b>AQUIOS Flow-Count Fluorospheres</b>	100 tests	100 tests	CE/IVD	<b>B43611</b>
AQUIOS Flow-Count Fluorospheres is a fluorescent microsphere reagent for direct determination of leukocyte absolute counts in biological specimens on the AQUIOS CL flow cytometer.				
<b>AQUIOS Flow-Count Fluorospheres</b>	100 tests	100 tests	RUO	<b>B96656</b>
AQUIOS Flow-Count Fluorospheres is a fluorescent microsphere reagent for direct determination of leukocyte absolute counts in biological specimens on the AQUIOS CL flow cytometer.				
<b>AQUIOS IMMUNO-TROL Cells</b>	2 x 3 mL	2 x 3 mL	IVD	<b>B23535</b>
AQUIOS IMMUNO-TROL Cells is an assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, the lysing of erythrocytes, and the analysis of samples by the AQUIOS CL Flow Cytometer. When using Tetra-1 Panel or Tetra-2+ Panel tests, there are 15 tests per tube. When using the Tetra Combo, there are 10 tests per tube.				
<b>AQUIOS IMMUNO-TROL Low Cells</b>	2 x 3 mL	2 x 3 mL	IVD	<b>B25700</b>
AQUIOS IMMUNO-TROL Low Cells is an assayed, lysable whole blood quality control product for immunophenotyping analysis using monoclonal antibody reagents and flow cytometry. It provides a positive cell control that is processed in the same manner as a whole blood sample. This allows verification of instrument and reagent performance. It also verifies the methods used for staining targeted cells, the lysing of erythrocytes, and the analysis of samples by the AQUIOS CL Flow Cytometer. When using Tetra-1 Panel or Tetra-2+ Panel tests, there are 15 tests per tube. When using the Tetra Combo, there are 10 tests per tube.				
<b>AQUIOS Lysing Reagent Kit</b>	100 tests	100 tests	IVD	<b>B23538</b>
AQUIOS Lysing Reagent Kit consists of two reagents (Reagent A and Reagent B) used by AQUIOS flow cytometers to prepare whole blood samples for analysis of white blood cells. Reagent A lyses red blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells. Reagent B slows the lysing reaction sufficiently to allow analysis without damage to white blood cells. The lysing reagents are placed onboard the system and are barcoded, which allows the system to detect their presence and position. High volume users can load multiple containers and the system will automatically move from one container to the next as needed.				
<b>AQUIOS Sheath Solution</b>	10 L	1 x 10 L	IVD	<b>B25697</b>
AQUIOS Sheath Solution is a non-fluorescent, azide free balanced electrolyte solution for use on AQUIOS flow cytometers with light scatter and fluorescent applications. The AQUIOS Sheath Solution is manufactured for low particulate and fluorescence background to ensure superior signal to noise ratio measurements during the analysis process.				
<b>AQUIOS Sodium Hypochlorite Solution</b>	4 x 50 mL	4 x 50 mL	IVD	<b>B23536</b>
AQUIOS Sodium Hypochlorite Solution is a cleaning agent used as part of an AQUIOS flow cytometer system. The solution maintains AQUIOS instruments in optimal condition. Sodium Hypochlorite reacts with protein buildup in the instrument. It is used as a preventative measure for optimal system operation as well as for corrective measures.				
<b>AQUIOS Tetra-1 Panel</b>	50 tests	50 tests	IVD	<b>B23533</b>
AQUIOS Tetra-1 Panel Monoclonal Antibody Reagents is a four-color monoclonal antibody cocktail consisting of CD45-FITC/CD4-RD1/CD8-ECD/CD3-PC5, and is used in the identification and enumeration of total CD3+, CD3+CD4+, CD3+CD8+, CD3+CD4+/CD3+CD8+ (ratio only) lymphocyte percentages and absolute counts in peripheral whole blood, plus the CD45+ absolute count and CD45+ Low SS (lymphocytes) percentage and absolute count. The formulation is optimized for high performance on the AQUIOS Flow Cytometer system: no experimenting, mixing or other pre-analysis work is necessary. The AQUIOS Tetra-1 Panel is ready to use. AQUIOS monoclonal reagent vials are cap pierce-able so there is no need to uncup and recap the vials every day. The vials are barcoded, which allows the user to load the vials in any random position. LOAD the vial in the carousel onboard the system, and GO. The system does the rest. High volume laboratories may load multiple vials in the reagent carousel and the system will automatically detect their presence and move from one vial to the next as needed.				
<b>AQUIOS Tetra-2+ Panel</b>	50 tests	50 tests	IVD	<b>B23534</b>
AQUIOS Tetra-2+ Panel Monoclonal Antibody Reagents is a four-color monoclonal antibody cocktail consisting of CD45-FITC/(CD56 + CD16)-RD1/CD19-ECD/CD3-PC5, and is used in the identification and enumeration of total CD3+, CD3-CD19+, CD3-CD56+ and/or CD16+ lymphocyte percentages and absolute counts in peripheral whole blood, plus the CD45+ absolute count and CD45+ Low SS (lymphocytes) percentage and absolute count. The formulation is optimized for high performance on the AQUIOS Flow Cytometer system: no experimenting, mixing or other pre-analysis work is necessary. The AQUIOS Tetra-2+ Panel is ready to use. AQUIOS monoclonal reagent vials are cap pierce-able so there is no need to uncup and recap the vials every day. The vials are barcoded, which allows the user to load the vials in any random position. LOAD the vial in the carousel onboard the system, and GO. The system does the rest. High volume laboratories may load multiple vials in the reagent carousel and the system will automatically detect their presence and move from one vial to the next as needed.				
<b>AQUIOS VersaFix Lysing Reagent</b>	50 tests	50 tests	CE/IVD	<b>B43019</b>
The AQUIOS VersaFix Lysing Reagent consists of a ready to use reagent that lyses red blood cells and fixes white blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells and without damage to white blood cells, allowing flow cytometry analysis on the AQUIOS CL Flow Cytometer in combination with the AQUIOS Designer Software.				

For Accessories see pages 287-289, for Support Reagents see page 241 and for Services see pages 15-21

**AQUIOS VersaFix Lysing Reagent**

50 tests

50 tests

RUO

**C02059**

The AQUIOS VersaFix Lysing Reagent consists of a ready to use reagent that lyses red blood cells and fixes white blood cells in whole blood samples sufficiently to perform monoclonal antibody panel analysis without interference from red blood cells and without damage to white blood cells, allowing flow cytometry analysis on the AQUIOS CL Flow Cytometer in combination with the AQUIOS Designer Software.

**AQUIOS VersaFix Lysing Reagent**

8 x 50 tests

8 x 50 tests

CE/IVD

**B43020****Accessories****Description****Size****Status****Part #****AQUIOS Deep Well Plate**

50 plates/case

Case of 50 plates

nMD

**B23502**

The AQUIOS Deep Well Plate is a 96-well, conical bottom microplate that optimizes the sample preparation process in the AQUIOS system. The plate is a high quality deep well type, made of polypropylene. Each Deep Well Plate has a unique barcode that is automatically read when placed onboard the system. This enables the system to track sample locations.

**Option****Size****Status****Part #****Color Laser Printer**

1 unit

nMD

**B31892**

Lexmark color laser printer (C746N), 120v for high-quality color printing and reliable performance. Easy-to-use features and solutions increase efficiency. For compatible color laser printers in other regions, please contact your Beckman Coulter representative.



## AQUIOS Designer Software

Many laboratories create their own reagent cocktails for routine applications in order to accommodate the marker combinations they need. With the optional AQUIOS Designer Software, these user-defined assays now can be combined with the Load & Go automation features of the AQUIOS CL flow cytometer.

AQUIOS Designer Software provides an intuitive and user-friendly interface with powerful features to set up your user-defined protocols, acquisition templates, panels, compensation settings, and statistic / QC parameters. All features can be accessed via pull-down menus or slider bars, and an easy to use help function will guide you through each individual step.

AQUIOS Designer Software is not available in all countries. Please contact your local Beckman Coulter representative for details. For more information on AQUIOS or AQUIOS Designer Software, please visit [AquiosCL.com](http://AquiosCL.com)



Each step in the sample preparation process (volumes, incubation times, mix cycles) can be adapted to your specific requirements. To customize your assay even more, AQUIOS Designer Software supports the use of different lysing options and can derive absolute cell counts using either reference beads or the AQUIOS volumetric absolute counting methodology.

In order to take advantage of the automation features of the AQUIOS CL system, Beckman Coulter provides the reagents for your user-defined assays either through our Contract Manufacturing (GMP) or Custom Design Services\* of user defined reagents. Either option provides barcoded and cap-pierceable vials that can be run on the AQUIOS CL instrument with automated tracking of all QC functionalities, including (but not limited to) reagent type, container ID, and lot number.

With AQUIOS Designer Software, running user-defined assays does not mean to sacrifice automated data transfer. The software supports all features you are used to from your catalog applications, without the need for any additional software or workstation\*\*.

The AQUIOS CL Flow Cytometry System streamlines operations by incorporating automated loading, sample preparation, reagent management, and barcode scanning as well as data analysis and bidirectional LIS connectivity in one compact platform – This is what we call, Load & Go Flow Cytometry.

No matter which Reagent Service option you choose, complex inventory management is a thing of the past because you receive your customized reagents in the quantities and lot sizes you require (minimum order quantities apply).

Under Beckman Coulter's Contract Manufacturing Services, we manufacture the components of your user defined test reagents under GMP conditions according to your specifications.

Our Custom Design Services\* go even one step further, in that our antibody experts assist you in panel design and reagent formulation.

\* Custom Design Services products are For Research Use Only. Not for use in diagnostic procedures.

\*\* Beckman Coulter recommends that all results be reviewed prior to release.

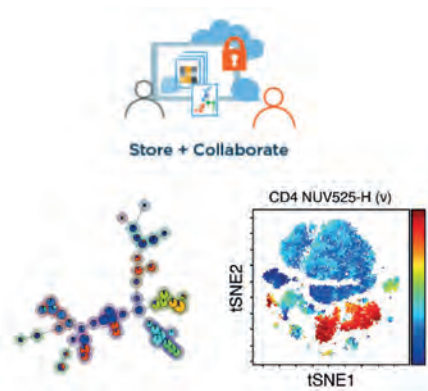
Software	Size	Status	Part #
<b>AQUIOS Designer Software 2.0</b>	1 unit	-	<b>C04893</b>
Software	Size	Status	Part #
<b>AQUIOS Designer Software 2.0</b>	1 unit	CE/IVD	<b>B69476</b>

## Cytobank Platform

The Cytobank platform provides an established cloud-based solution that accelerates research productivity by enabling you to analyze and visualize multiple complex single-cell data sets efficiently and effectively. The Cytobank platform provides tools for a complete workflow including data pre-processing steps such as data transformation and fluorescence compensation, classical population identification via biaxial gating and comprehensive population analysis with machine learning-based algorithms.

The Cytobank clustering, dimensionality reduction, and visualization tools leverage scalable cloud compute, doing large analyses quickly without taking over your computer. The software automatically and instantly saves all your work in the cloud so data aren't lost and you aren't interrupted. Native algorithm implementation and a fully supported restful API simplifies pipeline construction and integration into your informatics workflows.

Uploading your data, whether for storage, analysis, or sharing, is a great way to create a reliable backup of your results. In addition to preserving your cytometry experiments, the secure Cytobank servers allow you to back up and associate related experimental data, including protocols, presentations and microscopy images and to collaborate with colleagues from around the globe.



Academic license	Status	Part #
<b>Cytobank 1 year license</b>		
<b>Premium license</b>	RUO	<b>C47384</b>
<b>5 User Premium license</b>	RUO	<b>C47385</b>
<b>10 User Enterprise license</b>	RUO	<b>C47388</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47390</b>
<b>Cytobank 2 year license</b>		
<b>Premium license</b>	RUO	<b>C47391</b>
<b>5 User Premium license</b>	RUO	<b>C47392</b>
<b>10 User Enterprise license</b>	RUO	<b>C47395</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47396</b>
<b>Cytobank 3 year license</b>		
<b>Premium license</b>	RUO	<b>C47398</b>
<b>5 User Premium license</b>	RUO	<b>C47399</b>
<b>10 User Enterprise license</b>	RUO	<b>C47402</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47403</b>
Non-academic license	Status	Part #
<b>Cytobank 1 year license</b>		
<b>5 User Premium license</b>	RUO	<b>C47383</b>
<b>10 User Enterprise license</b>	RUO	<b>C47386</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47387</b>
<b>Cytobank 2 year license</b>		
<b>5 User Premium license</b>	RUO	<b>C47389</b>
<b>10 User Enterprise license</b>	RUO	<b>C47393</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47394</b>
<b>Cytobank 3 year license</b>		
<b>5 User Premium license</b>	RUO	<b>C47397</b>
<b>10 User Enterprise license</b>	RUO	<b>C47400</b>
<b>Additional User Enterprise license</b>	RUO	<b>C47401</b>

## Kaluza Analysis Software

Kaluza Analysis Software from Beckman Coulter employs cutting edge technology for fast, efficient real-time analysis of complex multicolor files for the research lab. It's easy to learn, easy to use, and represents true innovation in data manipulation and analysis. With tools such as panning and zoom, Kaluza allows you to use one software to analyze data from multiple cytometry platforms.

Kaluza isn't just for people who have a cytometer from Beckman Coulter. Kaluza can be integrated into your laboratory operations regardless of the cytometer since it reads standard FCS data files. Improved functionality allows you to:

Change the scale mode from Legacy to full range

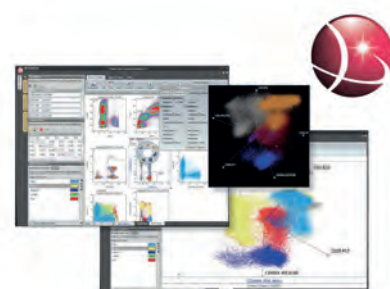
- Customize the plot axis range
- Use pan to position data on plot

Kaluza's unique Auto-Layout design intelligently reconfigures your workspace for you. This minimizes the clicks required to create and maintain your workspace to save you time and frustration.

With Kaluza you get:

- Custom plot sizing
- Easy creating of plots
- Zoom in and out
- Guided drag & drop

Kaluza is available in the format you and your laboratory need. Whether you are looking for an individual timed license or a large site license, we have the solution for you. And, with the Kaluza Network License Control Center managing a site license is easier than ever. Using the Kaluza Cytobank plugin you can easily leverage both platforms for your end-to-end data analysis workflow.



<i>Non-academic license</i>	<i>Status</i>	<i>Part #</i>
<b>Kaluza Software Kit 1 year Single User renewable license</b>	RUO	<b>A84174</b>
<b>Kaluza Software Kit 5 User Network</b>	RUO	<b>A84175</b>
<b>Kaluza Software Kit 10 User Network</b>	RUO	<b>A82961</b>
<b>Kaluza Software Kit Single User, Perpetual</b>	RUO	<b>A82959</b>
<i>Academic license</i>	<i>Status</i>	<i>Part #</i>
<b>Kaluza Software Kit Single User Perpetual Educational License</b>	RUO	<b>B16406</b>
<b>Kaluza Software Kit 1 year Single User Educational License</b>	RUO	<b>B16407</b>
<b>Kaluza Software Kit 5 User Network Educational License</b>	RUO	<b>B16408</b>
<b>Kaluza Software Kit 10 User Network Educational License</b>	RUO	<b>B16409</b>

## Kaluza C Analysis Software

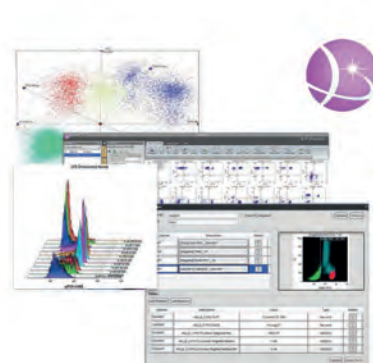
Kaluza C Flow Cytometry Analysis Software is built upon our successful Kaluza Analysis research use platform. We've turned our attention now to the unique needs and challenges of the clinical flow cytometry laboratory.

Clinical laboratories are under increasing pressure from three sources: reimbursement, regulatory, and resource. Meeting regulatory requirements places demands on both time and expertise.

Kaluza C provides features that streamline the clinical QC reporting requirements and address standardization issues in flow cytometry. At the same time it provides the power to process multi-color files of up to 20 million events in real time.

- Integration with Laboratory Information Systems (LIS).
- Traceability through user management.
- Specialized QC Report generation functions.
- Loads any listmode file that is compliant with the FCS standard up through version 3.1.

Kaluza C allows you to create and edit a Report Sheet, which can include plots, tables, graphics, text, page numbers, and/or a date and time stamp. Quickly arrange plots so that they do not overlap, or align them to the location of your choice. An electronic approval signature can be added to the report sheet. Kaluza C includes an interface that enables the transmission of results, including plots, related statistics, and keywords, to a Laboratory Information System (LIS).



<i>Non-academic license</i>	<i>Status</i>	<i>Part #</i>
<b>Kaluza C Analysis Software 1 Year, 1-User (Single)</b>	IVD	<b>C10575</b>
<b>Kaluza C Analysis Software Perpetual, 1-User (Single)</b>	IVD	<b>C10574</b>
<b>Kaluza C Analysis Software, 10-User (Network)</b>	IVD	<b>C10576</b>
<b>Kaluza C Analysis Software, 5-User (Network)</b>	IVD	<b>C10577</b>
<i>Academic license</i>	<i>Status</i>	<i>Part #</i>
<b>Kaluza C Analysis Software 1 Year, 1-User (Single)</b>	IVD	<b>C10578</b>
<b>Kaluza C Analysis Software Perpetual, 1-User (Single)</b>	IVD	<b>C10579</b>
<b>Kaluza C Analysis Software, 10-User (Network)</b>	IVD	<b>C10580</b>
<b>Kaluza C Analysis Software, 5-User (Network)</b>	IVD	<b>C10581</b>

\* In development, pending achievement of CE compliance; not yet available for in vitro diagnostic use



## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Cell Culture Flask Adapters

	Description	Status	Part #
Corning T-25 cm <sup>2</sup>	2 adapters for canted-neck flask, 25 cm <sup>2</sup>	nMD	<b>369295</b>
Corning T-75 cm <sup>2</sup>	2 adapters for canted-neck flask, 75 cm <sup>2</sup>	nMD	<b>369292</b>

## For AQUIOS CL

	Description	Status	Part #
AQUIOS Deep Well Plate	Case of 50 plates	nMD	<b>B23502</b>
Cassette Type 1	For tubes: 13mm X 75mm	nMD	<b>B25218</b>
Cassette Type 2	For tubes: 13mm X 100mm	nMD	<b>B25219</b>
Cassette Type 3	For tubes: 16mm X 100mm	nMD	<b>B25220</b>
Cassette Type 4	For tubes: 10.25mm X 50mm	nMD	<b>B25221</b>
Cassette Type 5	For tubes: AQUIOS IMMUNO-TROL Control Tube	nMD	<b>B25318</b>
Cassette Type 6	For tubes: Sarstedt 13mm X 75mm	nMD	<b>B25918</b>
Cassette Type 7	For tubes: Sarstedt 13mm x 90mm	nMD	<b>B52994</b>
Cassette Type 8	For tubes: Sarstedt 11mm X 66mm	nMD	<b>B53022</b>
Cassette Type 9	For tubes: Sarstedt 15mm X 92mm	nMD	<b>B53031</b>
Cassette Type 10	For tubes: Sarstedt 13mm X 65mm	nMD	<b>B53808</b>
Color Laser Printer	1 unit (120v only)	nMD	<b>B31892</b>
Waste Collection Container	10 L	nMD	<b>7547155</b>

## For Biomek NGenius

	Description	Status	Part #
Biomek Seal Plate	20/Box	nMD	<b>C70665</b>
Conductive Tips 1025 µL	5 racks/case	nMD	<b>C59585</b>
Conductive Tips 70 µL	10 racks/case	nMD	<b>C62712</b>
1025 µL Tip Box	10 racks/case	nMD	<b>C70672</b>
70 µL Tip Box	10 racks/case	nMD	<b>C70673</b>

## For CellMek SPS

	Description	Status	Part #
Cassette Type A		nMD	<b>C38523</b>
Cassette Type A+		nMD	<b>B08260</b>
Cassette Type B		nMD	<b>B07575</b>
Cassette Type D		nMD	<b>B07577</b>
Cassette Type E		nMD	<b>C68661</b>
Cassette Type A labels		nMD	<b>A46135</b>
Cassette Type B labels		nMD	<b>A46136</b>
Cassette Type D labels		nMD	<b>A46138</b>
Cassette Type E labels		nMD	<b>C71319</b>
IOtest vials (empty) with barcode label		nMD	<b>C68652</b>
Lyse bottles (empty) with barcode label		nMD	<b>C68757</b>
Tubes 12 x 75mm (empty) with barcode label		nMD	<b>C58854</b>
Plate 48 wells / 2D barcode, 4.8 mL		nMD	<b>C44097</b>
DuraCartridge		nMD	Please call
IOtest Pierceable Caps		nMD	<b>C67717</b>
Cyto-Stat Pierceable Caps		nMD	<b>C58512</b>

For other product accessories please visit [www.beckman.com](http://www.beckman.com).

## For CytoFLEX

	Description	Status	Part #
Waste/Sheath Tanks Wiring Harness	10L Waste/Sheath Tanks Wiring Harness	nMD	<b>B86549</b>
CytoFLEX Plate Loader		nMD	<b>B63215</b>
CytoFLEX Plate Loader with Mode Control Upgrade Kit		nMD	<b>C02396</b>
Deep Clean Solution Bottle		nMD	<b>A04-1-0038</b>
510/20 nm Bandpass Filter	BP 510/20 GFP	nMD	<b>B76128</b>
515/20 nm Bandpass Filter	BP 515/20 eGFP	nMD	<b>B76124</b>
595/20 nm Bandpass Filter	BP 595/20 DsRed	nMD	<b>B76117</b>
585/15 nm Bandpass Filter	BP 585/15 dTomato	nMD	<b>B76121</b>
550/30 nm Bandpass Filter	BP 550/30 YFP	nMD	<b>B76139</b>
740/35 nm Bandpass Filter	BP 740/35 BUV 737	nMD	<b>B78217</b>
819/44 nm Bandpass Filter	BP 819/44 BUV 805	nMD	<b>B78220</b>
405/10 nm Bandpass Filter	BP 405	nMD	<b>A01-1-0048</b>
450/45 nm Bandpass Filter	BP 450/45 Pacific Blue	nMD	<b>A01-1-0049</b>
488/8 nm Bandpass Filter	BP 488	nMD	<b>A01-1-0050</b>
525/40 nm Bandpass Filter	BP 525/40 Krome Orange	nMD	<b>A01-1-0051</b>
585/42 nm Bandpass Filter	BP 585/42 PE	nMD	<b>A01-1-0052</b>
610/20 nm Bandpass Filter	BP 610/20 ECD/mCheery	nMD	<b>A01-1-0053</b>
638/6 nm Bandpass Filter	BP 638	nMD	<b>A01-1-0054</b>
660/10 nm Bandpass Filter	BP 660/20 Violet 660	nMD	<b>A01-1-0055</b>
690/50 nm Bandpass Filter	BP 690/50 PV5.5	nMD	<b>A01-1-0056</b>
712/25 nm Bandpass Filter	BP 712/25 APC-A700	nMD	<b>A01-1-0057</b>
780/60 nm Bandpass Filter	BP 780/60 APC-A750	nMD	<b>A01-1-0058</b>
405/30 nm Bandpass Filter		nMD	<b>B99146</b>
450/45 nm Bandpass Filter with Signal Attenuation (OD1)		nMD	<b>B90300</b>
510/20 nm Bandpass Filter with Signal Attenuation (OD1)		nMD	<b>B90294</b>
525/40 nm Bandpass Filter with Signal Attenuation (OD1)		nMD	<b>B90303</b>
561/6 nm Bandpass Filter		nMD	<b>B72627</b>
585/30 nm Bandpass Filter		nMD	<b>B71089</b>
610/20 nm Bandpass Filter with Signal Attenuation (OD1)		nMD	<b>B90297</b>
675/30 nm Bandpass Filter		nMD	<b>B78244</b>
710/50 nm Bandpass Filter		nMD	<b>B71092</b>
763/43 nm Bandpass Filter		nMD	<b>B99143</b>
840/20 nm Bandpass Filter		nMD	<b>B99144</b>
885/40 nm Bandpass Filter		nMD	<b>B99145</b>
Peristaltic Sample Tubing	Sample pump	nMD	<b>A04-1-0048</b>
Plate Loader Sample Probe	Contains tubing to attach to plate assembly	nMD	<b>B63213</b>
Preventive Maintenance Kit	Materials for 2 PM or 1 year supply	nMD	<b>C02943</b>
Sample needle	115 mm (blue bead)	nMD	<b>A04-1-0034</b>
Sample needle	113 mm (orange bead)	nMD	<b>B71294</b>
Sheath Bottle		nMD	<b>A04-1-0036</b>
Sheath Filter		nMD	<b>A04-1-0041</b>
Waste Bottle		nMD	<b>A04-1-0037</b>
Waste Collection Container	10 L	nMD	<b>7547155</b>

For other product accessories please visit [www.beckman.com](http://www.beckman.com).

**For MoFlo Astrios EQ Sorter Family**

	Description	Status	Part #
100V version	100 V, 1 unit	RUO	<b>B10300</b>
110-120V version	110-120 V, 1 unit	RUO	<b>B10302</b>
220-240V version	220-240 V, 1 unit	RUO	<b>B10301</b>

**For Navios**

	Description	Status	Part #
Data Innovations Additional Connection, Licence and Service	1 unit	nMD	Please call
Data Innovations Hardware Computer System	1 unit	nMD	<b>B35622</b>
Data Innovations Instrument Manager Software, Licenses and Service	1 unit	nMD	Please call
Sample Tubes	250 tubes, 12mm x 75mm	nMD	<b>2523749</b>

**For PrepPlus Workstation**

	Description	Status	Part #
PrepPlus 2 Accessory Kit	1 unit	nMD	<b>6915549</b>

**For Quanta Series**

	Description	Status	Part #
24-Position Tube rack	1 unit	nMD	<b>373661</b>
	3 x 10 mL	IVD	<b>6605359</b>

**For TQ-Prep**

	Description	Status	Part #
Syringe Pump	1 kit	RUO	<b>6915116</b>

**For Vi-CELL Counter**

	Description	Status	Part #
Vi-CELL XR Quad Pack	4 reagent packs (120 vials per pack)	LUO	<b>383722</b>
Vi-CELL Concentration Control	1 vial	LUO	<b>175478</b>
Vi-CELL Focus Control	1 vial	LUO	<b>175474</b>
Vi-CELL Sample Cups	4 x 120 vials	LUO	<b>383721</b>
Vi-CELL XR Single Pack	One reagent pack and one bag of 120 sample cups	LUO	<b>383260</b>

For other product accessories please visit [www.beckman.com](http://www.beckman.com).



## NOTES

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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001-16078	Echo 650T	249
001-16079	Echo 650 Series; Echo 650	249
001-16080	Echo 655 Series; Echo 655	249
175474	Vi-CELL Focus Control; LUO; 1 vial	263, 289
175478	Vi-CELL Concentration Control; LUO; 1 vial	263, 289
175621	LeukoSure Enumeration Kit; IVD; 200 tests	217
175651	Leuko-Trol Platelet Control Kit; IVD; 25 tests	217
175658	Leuko-Trol RBC Control Kit; IVD; 25 tests	217
177017	QuickCOMP 4 Kit; IVD; 50 tests	216, 219, 228
177018	QuickCOMP 2 Kit; IVD; 50 tests	218, 227
369001	Avanti J-E; 208-240 V, 50/60 Hz	257
369003	Avanti J-E; 230 V, 50 Hz	257
369005	Avanti J-E; 200 V, 50/60 Hz	257
369292	Corning T-75 cm <sup>2</sup> ; 2 units	287
369295	Corning T-25 cm <sup>2</sup> ; 2 units	287
373661	24-Position Tube rack; 1 unit	289
378600	PrepPlus 2 Workstation; IVD; 1 unit	254
383260	Vi-CELL XR Single Pack; LUO; 1 pack	263, 289
383556	Vi-CELL XR; LUO; 1 unit	263
383721	Vi-CELL Sample Cups; LUO; 4 x 120 vials	263, 289
383722	Vi-CELL XR Quad Pack; LUO; 4 reagent packs (120 vials per pack)	263, 289
393315	Optima MAX-XP; MAX-XP	260
737657	CD3 (Human); Clone: UCHT1; PC7; CE/IVD; 100 tests	34
737659	CD8 (Human); Clone: SFC121Thy2D3; ECD; CE/IVD; 50 tests	38
737660	CD4 (Human); Clone: SFC121Thy2D3; PC7; CE/IVD; 100 tests	35
737661	CD8 (Human); Clone: SFC121Thy2D3; PC7; CE/IVD; 100 tests	38
737662	IgG1 (Mouse); Clone: 679.1Mc7; PC7; CE/IVD; 100 tests	149
737663	APC (675/633) Set-up Kit; CE/IVD; 2 vials	223
737664	PC7 (770/488) Set-up Kit; CE/IVD; 2 vials	225
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969352	200/208/240 V, 50/60 Hz; BioSafe	257
2523749	Sample Tubes; 250 tubes	289
6602381	CD20 (Human); Clone: H299; FITC; IVD; 100 tests	49
6602385	CD8 (Human); Clone: SFC121Thy2D3; FITC; IVD; 100 tests	38
6602389	CD2 (Human); Clone: SFC13Pt2H9; FITC; IVD; 100 tests	33
6602393	CD4 (Human); Clone: SFC121Thy2D3; FITC; IVD; 100 tests	35
6602463	CD10 (Human); Clone: J5; FITC; ASR; 0.5 mg	40

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6602764	Whole Blood Lysing Reagents; IVD; 100 tests	236
6602864	CD4 (Human); Clone: SFC121Thy2D3; RD1; IVD; 100 tests	35
6602868	CD2 (Human); Clone: SFC13Pt2H9; RD1; IVD; 100 tests	33
6602884	IgG1 (Mouse); Clone: 2T8-2F5; RD1; IVD; 100 tests	149
6602928	IgG1 (Mouse); Clone: 2T8-2F5; FITC; IVD; 100 tests	149
6602989	CD13 (Human); Clone: 366; RD1; ASR; 0.5 mL	43
6603012	CD19 (Human); Clone: 89B; FITC; IVD; 100 tests	48
6603024	CD19 (Human); Clone: 89B; RD1; IVD; 100 tests	48
6603042	CD33 (Human); Clone: 906; RD1; ASR; 0.5 mL	56
6603067	CD56 (Human); Clone: N901; RD1; ASR; 0.5 mL	70
6603113	CD29 (Human); Clone: 4B4LDC9LDH8; UNLB; RUO; 100 tests	54
6603152	Whole Blood Lysing Reagents; IVD; 300 tests	236
6603177	CD29 (Human); Clone: 4B4LDC9LDH8; RD1; RUO; 100 tests	54
6603181	CD45RA (Human); Clone: 2H4LDH1LDB9; RD1; RUO; 100 tests	65
6603185	CD1a (Human); Clone: SFC119Thy1A8; RD1; RUO; 100 tests	32
6603262	CD14 (Human); Clone: 322A-1; RD1; IVD; 100 tests	44
6603274	CD8 (Human); Clone: SFC121Thy2D3; RD1; IVD; 100 tests	38
6603369	PBS Buffer; LUO; 15 packets	241
6603446	CD20 (Human); Clone: H299; RD1; IVD; 100 tests	49
6603473	IMMUNO-BRITE Fluorospheres; IVD; 5 x 10 mL	225
6603475	CD10 (Human); Clone: J5; RD1; ASR; 0.5 mL	40
6603511	CD14 (Human); Clone: 322A-1; FITC; IVD; 100 tests	44
6603795	IgG2a-FITC/IgG1-PE; IVD; 50 tests	163
6603796	IgG1-FITC/IgG1-PE; IVD; 50 tests	163
6603801	CD19-FITC/CD2-PE; IVD; 50 tests	162
6603802	CD8-FITC/CD4-PE; IVD; 50 tests	162
6603822	CD7 (Human); Clone: 3A1E-12H7; RD1; ASR; 0.5 mL	37
6603824	CD7 (Human); Clone: 3A1E-12H7; FITC; ASR; 0.5 mL	37
6603827	CD7 (Human); Clone: 3A1E-12H7; RD1; ASR; 0.5 mL	37
6603838	CD45 (Human); Clone: KC56; FITC; ASR; 1 mg	64
6603839	CD45 (Human); Clone: KC56; RD1; ASR; 0.5 mL	64
6603846	CD19 (Human); Clone: 89B; RD1; IVD; 50 tests	48
6603848	CD8 (Human); Clone: SFC121Thy2D3; RD1; IVD; 50 tests	38
6603849	CD2 (Human); Clone: SFC13Pt2H9; RD1; IVD; 50 tests	33
6603850	CD4 (Human); Clone: SFC121Thy2D3; RD1; IVD; 50 tests	35
6603852	IgG2b (Mouse); Clone: MPC-11; RD1; ASR; 0.5 mL	150
6603853	IgG2b (Mouse); Clone: MPC-11; FITC; IVD; 50 tests	150
6603855	IgG2a (Mouse); Clone: 7T4-1F5; FITC; IVD; 50 tests	149
6603857	CD56 (Human); Clone: N901; RD1; ASR; 0.5 mL	70
6603858	CD20 (Human); Clone: H299; RD1; IVD; 50 tests	49

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6603859	CD19 (Human); Clone: 89B; FITC; IVD; 50 tests	48
6603861	CD8 (Human); Clone: SFC121Thy2D3; FITC; IVD; 50 tests	38
6603862	CD4 (Human); Clone: SFC121T4D11; FITC; IVD; 50 tests	35
6603863	CD2 (Human); Clone: SFC13Pt2H9; FITC; IVD; 50 tests	33
6603864	IgG1 (Mouse); Clone: 2T8-2F5; FITC; IVD; 50 tests	149
6603909	CD45-FITC/CD14-PE; IVD; 50 tests	162
6604104	CD45 (Human); Clone: KC56; FITC; ASR; 0.5 mL	64
6604106	CD20 (Human); Clone: H299; FITC; IVD; 50 tests	49
6604107	CD10 (Human); Clone: J5; FITC; ASR; 0.5 mL	40
6604110	CD14 (Human); Clone: 322A-1; FITC; IVD; 50 tests	44
6604114	CD14 (Human); Clone: 116; FITC; IVD; 50 tests	44
6604119	IgG2a (Mouse); Clone: 7T4-1F5; RD1; IVD; 50 tests	149
6604120	CD10 (Human); Clone: J5; RD1; ASR; 0.5 mL	40
6604121	CD33 (Human); Clone: 906; RD1; ASR; 0.5 mL	56
6604159	CD29 (Human); Clone: 4B4DC9LDH8; RD1; RUO; 50 tests	54
6604248	CYT0-TROL Control Cells; IVD; 50 tests	216, 219, 227
6604366	HLA-DR, DP, DQ (Human); Clone: 9-49; RD1; ASR; 0.5 mL	120
6604422	CD25 (Human); Clone: 1HT44H3; RD1; ASR; 0.5 mL	52
6604426	CD23 (Human); Clone: HD50; RD1; ASR; 0.5 mL	51
6604428	CD22 (Human); Clone: HD239; RD1; ASR; 0.5 mL	50
6604500	CD14 (Human); Clone: 116; RD1; IVD; 50 tests	44
6604548	IgG1 (Mouse); Clone: 2T8-2F5; ECD; RUO; 50 tests	149
6604551	CD19 (Human); Clone: HD237; ECD; ASR; 0.5 mL	48
6604614	CD4-FITC/CD8-PE; IVD; 50 tests	162
6604621	CD3 (Human); Clone: UCHT1; RD1; IVD; 50 tests	34
6604623	CD3 (Human); Clone: UCHT1; FITC; IVD; 50 tests	34
6604625	CD3 (Human); Clone: UCHT1; FITC; IVD; 100 tests	34
6604627	CD3 (Human); Clone: UCHT1; RD1; IVD; 100 tests	34
6604665	HIV-1 core antigen (Human); Clone: KC57; FITC; RUO; 100 tests	118
6604667	HIV-1 core antigen (Human); Clone: KC57; RD1; RUO; 100 tests	118
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6604727	CD4 (Human); Clone: SFC121T4D11; ECD; ASR; 0.5 mL	35
6604728	CD8 (Human); Clone: SFC121Thy2D3; ECD; ASR; 0.5 mL	38
6604894	CD16 (Human); Clone: 3G8; FITC; ASR; 0.5 mL	46
6604928	CD38 (Human); Clone: LS198-4-3; RD1; ASR; 0.5 mL	59
6604929	CD3-FITC/CD4-PE; IVD; 50 tests	162
6604930	CD3-FITC/CD8-PE; IVD; 50 tests	162
6605015	CD3-FITC/CD19-PE; IVD; 50 tests	162
6605359	Flow-Check Fluorospheres; IVD; 3 x 10 mL	209, 218, 219, 223, 289
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6607010	CD3 (Human); Clone: UCHT1; PC5; ASR; 0.5 mL	34
6607011	CD8 (Human); Clone: SFC121Thy2D3; PC5; ASR; 0.5 mL	38
6607012	IgG1 (Mouse); Clone: 2T8-2F5; PC5; RUO; 50 tests	149
6607013	CD45-FITC/CD4-PE/CD8-ECD/CD3-PC5; IVD; 50 tests	161, 216, 219
6607015	CD45-FITC/CD4-PE/CD3-PC5; IVD; 50 tests	161
6607017	CD45-FITC/CD8-PE/CD3-PC5; IVD; 50 tests	161
6607019	CD45-FITC/IgG1-PE/IgG1-PC5; IVD; 50 tests	162
6607021	CYT0-COMP Reagent Kit; IVD; 50 tests	226
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6607053	CD8-FITC/CD4-PE/CD3-PC5; IVD; 50 tests	161
6607054	IgG1-FITC/IgG1-PE/IgG1-PC5; IVD; 50 tests	162
6607072	CD45-FITC/CD19-PE/CD3-PC5; IVD; 50 tests	162
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6607077	IMMUNO-TROL Cells; IVD; 60 tests	216, 219, 227
6607098	IMMUNO-TROL Low Cells; IVD; 60 tests	216, 219, 227
6607099	IgG1 (Mouse); Clone: 679.1Mc7; PC7; RUO; 100 tests	149
6607100	CD3 (Human); Clone: UCHT1; PC7; RUO; 100 tests	34
6607101	CD4 (Human); Clone: SFC121T4D11; PC7; RUO; 100 tests	35
6607102	CD8 (Human); Clone: SFC121Thy2D3; PC7; RUO; 100 tests	38
6607103	CD8-FITC/CD4-PE/CD3-PC7; RUO; 50 tests	163
6607107	CD27 (Human); Clone: 1A4CD27; PC5; RUO; 100 tests	53
6607108	CD28 (Human); Clone: CD28.2; PC5; RUO; 100 tests	54
6607110	CD69 (Human); Clone: TP1.55.3; ECD; RUO; 100 tests	76
6607111	CD28 (Human); Clone: CD28.2; ECD; RUO; 100 tests	54
6607112	CD25 (Human); Clone: BL49.9; ECD; RUO; 100 tests	52
6607115	CD41 (Human); Clone: P2; PC7; RUO; 100 tests	61
6607116	CD41 (Human); Clone: P2; PC5; RUO; 100 tests	61
6607117	CD41 (Human); Clone: P2; ECD; RUO; 100 tests	61
6607118	CD16 (Human); Clone: 3G8; PC7; RUO; 100 tests	46
6607120	APC (675/633) Set-up Kit; RUO; 2 vials	223
6607121	PC7 (770/488) Set-up Kit; RUO; 2 vials	225
6607123	CD8β (Human); Clone: 2ST8.5H7; ECD; RUO; 100 tests	39
6607130	ThromboFix Platelet Stabilizer; RUO; 100 tests	235
6915116	Syringe Pump; RUO; 1 kit	255, 289
6915549	PrepPlus 2 Accessory Kit; 1 kit	254, 289
7546946	IMMUNOPREP Reagent System; IVD; 100 tests	231
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8547008	IsoFlow Sheath Fluid; IVD; 4 x 1.8 L	242
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A07407	CD209 (Human); Clone: AZND1; PE; RUO; 100 tests	105
A07408	CD85j (Human); Clone: HP-F1; PE; ASR; 1 mL	81
A07409	CD184 (Human); Clone: 12G5; PE; ASR; 2 mL	101
A07413	CD294 (Human); Clone: BM16; PE; RUO; 100 tests	109
A07415	CD3-FITC/CD56-PC5; RUO; 50 tests	164
A07481	CD144 (Human); Clone: TEA 1/31; PE; ASR; 2 mL	93
A07483	CD146 (Human); Clone: TEA 1/34; PE; ASR; 2 mL	93
A07704	7-AAD Viability Dye; IVD; 150 tests	237
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A07706	Kappa-FITC/Lambda-PE/CD19-ECD; CE/IVD; 25 tests	168
A07707	CD5-FITC/CD10-PE/CD19-ECD; CE/IVD; 25 tests	166
A07708	CD20-FITC/CD10-PE/CD19-ECD; CE/IVD; 25 tests	167
A07709	FMC7-FITC/CD23-PE/CD19-ECD; CE/IVD; 25 tests	168
A07710	CD5-FITC/CD23-PE/CD19-ECD; CE/IVD; 25 tests	166
A07711	CD25-FITC/CD11c-PE/CD19-ECD; CE/IVD; 25 tests	167
A07712	CD103-FITC/CD11c-PE/CD19-ECD; CE/IVD; 25 tests	168
A07713	CD19-FITC/CD10-PE/CD45-ECD; CE/IVD; 25 tests	167
A07714	CD38-FITC/CD56-PE/CD45-ECD; CE/IVD; 25 tests	168
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A07719	HLA-DR-FITC/CD34-PE/CD45-ECD; CE/IVD; 25 tests	168
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A07723	CD41-FITC/CD235a-PE/CD45-ECD; CE/IVD; 25 tests	168
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A07730	Neg.Ctrl.-FITC/Neg.Ctrl.-PE/CD19-ECD; CE/IVD; 25 tests	169
A07731	Neg.Ctrl.-FITC/Neg.Ctrl.-PE/CD3-ECD; CE/IVD; 25 tests	169
A07732	Neg.Ctrl.-FITC/Neg.Ctrl.-PE/Neg.Ctrl.-ECD; CE/IVD; 25 tests	169
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A07736	CD3-FITC/CD19-PE; CE/IVD; 50 tests	164
A07737	CD3-FITC/HLA-DR-PE; CE/IVD; 50 tests	164
A07738	CD45-FITC/CD14-PE; CE/IVD; 50 tests	165
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A07742	CD1a (Human); Clone: BL6; PE; CE/IVD; 100 tests	32
A07743	CD2 (Human); Clone: 39C1.5; FITC; CE/IVD; 100 tests	33
A07744	CD2 (Human); Clone: 39C1.5; PE; CE/IVD; 100 tests	33
A07745	CD2 (Human); Clone: 39C1.5; PC5; CE/IVD; 100 tests	33
A07746	CD3 (Human); Clone: UCHT1; FITC; CE/IVD; 100 tests	34
A07747	CD3 (Human); Clone: UCHT1; PE; CE/IVD; 100 tests	34
A07748	CD3 (Human); Clone: UCHT1; ECD; CE/IVD; 100 tests	34
A07749	CD3 (Human); Clone: UCHT1; PC5; CE/IVD; 100 tests	34
A07750	CD4 (Human); Clone: 13B8.2; FITC; CE/IVD; 100 tests	35
A07751	CD4 (Human); Clone: 13B8.2; PE; CE/IVD; 100 tests	35
A07752	CD4 (Human); Clone: 13B8.2; PC5; CE/IVD; 100 tests	35
A07753	CD5 (Human); Clone: BL1a; PE; CE/IVD; 100 tests	36
A07754	CD5 (Human); Clone: BL1a; PC5; CE/IVD; 100 tests	36
A07755	CD7 (Human); Clone: 8H8.1; FITC; CE/IVD; 100 tests	37
A07756	CD8 (Human); Clone: B9.11; FITC; CE/IVD; 100 tests	38
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A07758	CD8 (Human); Clone: B9.11; PC5; CE/IVD; 100 tests	38
A07759	CD10 (Human); Clone: ALB1; FITC; CE/IVD; 100 tests	40
A07760	CD10 (Human); Clone: ALB1; PE; CE/IVD; 100 tests	40
A07761	CD10 (Human); Clone: ALB1; PC5; CE/IVD; 100 tests	40
A07762	CD13 (Human); Clone: SJID1; PE; CE/IVD; 100 tests	43
A07763	CD13 (Human); Clone: Immul03.44; PC5; CE/IVD; 100 tests	43
A07764	CD14 (Human); Clone: RM052; PE; CE/IVD; 100 tests	44
A07765	CD14 (Human); Clone: RM052; PC5; CE/IVD; 100 tests	44
A07766	CD16 (Human); Clone: 3G8; PE; CE/IVD; 100 tests	46
A07767	CD16 (Human); Clone: 3G8; PC5; CE/IVD; 100 tests	46
A07768	CD19 (Human); Clone: J3-119; FITC; CE/IVD; 100 tests	48
A07769	CD19 (Human); Clone: J3-119; PE; CE/IVD; 100 tests	48
A07770	CD19 (Human); Clone: J3-119; ECD; CE/IVD; 100 tests	48
A07771	CD19 (Human); Clone: J3-119; PC5; CE/IVD; 100 tests	48
A07772	CD20 (Human); Clone: B9E9; FITC; CE/IVD; 100 tests	49
A07773	CD20 (Human); Clone: B9E9; PC5; CE/IVD; 100 tests	49
A07774	CD25 (Human); Clone: BL49.9; PE; CE/IVD; 100 tests	52
A07775	CD33 (Human); Clone: D3HL60.251; PE; CE/IVD; 100 tests	56
A07776	CD34 (Human); Clone: 581; PE; CE/IVD; 100 tests	57

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A07779	CD38 (Human); Clone: LS198-4-3; PE; CE/IVD; 100 tests	59
A07780	CD38 (Human); Clone: LS198-4-3; PC5; CE/IVD; 100 tests	59
A07781	CD41 (Human); Clone: P2; PE; CE/IVD; 100 tests	61
A07782	CD45 (Human); Clone: J33; FITC; CE/IVD; 100 tests	64
A07783	CD45 (Human); Clone: J33; PE; CE/IVD; 100 tests	64
A07784	CD45 (Human); Clone: J33; ECD; CE/IVD; 100 tests	64
A07785	CD45 (Human); Clone: J33; PC5; CE/IVD; 100 tests	64
A07786	CD45RA (Human); Clone: ALB11; FITC; CE/IVD; 100 tests	65
A07787	CD45RO (Human); Clone: UCHL1; PE; CE/IVD; 100 tests	66
A07788	CD56 (Human); Clone: N901; PE; CE/IVD; 100 tests	70
A07789	CD56 (Human); Clone: N901; PC5; CE/IVD; 100 tests	70
A07790	CD62P (Human); Clone: CLB-Thromb/6; FITC; CE/IVD; 100 tests	73
A07791	FMC7 (Human); Clone: FMC7; FITC; CE/IVD; 100 tests	116, 49
A07792	CD235a (Human); Clone: 11E4B-7-6; PE; CE/IVD; 100 tests	106
A07793	HLA-DR (Human); Clone: Immu-357; PC5; CE/IVD; 100 tests	120
A07794	IgG1-FITC/IgG1-PE; CE/IVD; 50 tests	166
A07795	IgG1 (Mouse); Clone: 679.1Mc7; FITC; CE/IVD; 100 tests	149
A07796	IgG1 (Mouse); Clone: 679.1Mc7; PE; CE/IVD; 100 tests	149
A07797	IgG1 (Mouse); Clone: 679.1Mc7; ECD; CE/IVD; 100 tests	149
A07798	IgG1 (Mouse); Clone: 679.1Mc7; PC5; CE/IVD; 100 tests	149
A07799	IOtest 3 Lysing Solution; IVD; 100 tests	232
A07800	IOtest 3 Fixative Solution; IVD; 100 - 200 tests	232
A07802	IntraPrep Permeabilization Reagent; IVD; 50 tests	231
A07803	IntraPrep Permeabilization Reagent; IVD; 150 tests	231
A08932	CD5 (Human); Clone: BL1a; FITC; CE/IVD; 100 tests	36
A08933	CD109 (Human); Clone: 8A3; PE; RUO; 100 tests	86
A08934	CD314 (Human); Clone: ON72; PE; ASR; 1 mL	111
A09141	IgG2a (Mouse); Clone: 7T4-1F5; PE; ASR; 2 mL	149
A09142	IgG2a (Mouse); Clone: 7T4-1F5; PE; CE/IVD; 100 tests	149
A09144	IgG2a (Mouse); Clone: 7T4-1F5; ECD; ASR; 1 mL	149
A09147	IgG2a (Mouse); Clone: 7T4-1F5; PC5; ASR; 1 mL	149
A09148	IgG2a (Mouse); Clone: 7T4-1F5; PC5; CE/IVD; 100 tests	149
A09777	VersaLyse Lysing Solution; IVD; 100 tests	236
A09778	CD158a,h (Human); Clone: EB6B; PE; ASR; 1 mL	95
A10974	IgG1-FITC/IgG2a-PE; RUO; 50 tests	166
A11894	OptiLyse No-Wash Lysing Solutions; RUO; 200 tests	233
A11895	OptiLyse No-Wash Lysing Solutions; IVD; 200 tests	233
A12689	IgG2a (Mouse); Clone: 7T4-1F5; FITC; CE/IVD; 100 tests	149
A12690	IgG2a (Mouse); Clone: 7T4-1F5; FITC; ASR; 2 mL	149

Part #	Description	Page
A12692	IgG2a (Mouse); Clone: 7T4-1F5; PC7; ASR; 1 mL	149
A12693	IgG2a (Mouse); Clone: 7T4-1F5; APC; CE/IVD; 100 tests	149
A12694	IgG2a (Mouse); Clone: 7T4-1F5; APC; ASR; 1 mL	149
A17116	Allergenicity Kit; CE/IVD; 100 tests	211
A17599	IgG1-FITC/IgG2a-PE; RUO; 50 tests	170
A21689	CD2 (Human); Clone: 39C1.5; PC7; CE/IVD; 100 tests	33
A21690	CD5 (Human); Clone: BL1a; PC7; CE/IVD; 100 tests	36
A21691	CD34 (Human); Clone: 581; PC7; CE/IVD; 100 tests	57
A21692	CD56 (Human); Clone: N901; PC7; CE/IVD; 100 tests	70
A21693	CD20 (Human); Clone: B9E9; APC; CE/IVD; 100 tests	49
A22327	Cyclin A2 (Human); Clone: 11B2G3; FITC; ASR; 2 mL	115
A22328	CD300a (Human); Clone: E59.126; PE; ASR; 1 mL	109
A22329	CD314 (Human); Clone: ON72; APC; ASR; 0.5 mL	111
A22330	CD328 (Human); Clone: Z176; PE; RUO; 50 tests	112
A22331	CD14 (Human); Clone: RM052; PC7; ASR; 1 mL	44
A22332	CD158a,h (Human); Clone: EB6B; APC; ASR; 0.5 mL	95
A22333	CD158b1/b2,j (Human); Clone: GL183; APC; ASR; 0.5 mL	96
A22334	CD85d (Human); Clone: 42D1; PE; RUO; 100 tests	80
A22361	CD166 (Human); Clone: 3A6; PE; ASR; 2 mL	99
A22364	CD146 (Human); Clone: TEA 1/34; PC5; ASR; 1 mL	93
A23413	CD(14+16)-FITC/CD85k-PE/CD33-PC5; CE/IVD; 50 tests	163
A23416	CD(14+16)-FITC/CD85k-PE/CD123-PC5; CE/IVD; 50 tests	163
A24987	OSCAR (Human); Clone: 11.1CN5; PE; RUO; 100 tests	128
A32535	CD123 (Human); Clone: SSDCLY107D2; PE; ASR; 2 mL	88
A32536	CD21 (Human); Clone: BL13; PE; ASR; 2 mL	50
A32537	CD44 (Human); Clone: J.173; PE; ASR; 2 mL	63
A32560	CD43 (Human); Clone: DFT1; PE; ASR; 2 mL	63
A33096	CD5 (Human); Clone: BL1a; ECD; ASR; 1 mL	36
A33097	CD13 (Human); Clone: Immul03.44; ECD; ASR; 1 mL	43
A33098	CD16 (Human); Clone: 3G8; ECD; ASR; 1 mL	46
A33099	CD23 (Human); Clone: 9P25; PE; ASR; 2 mL	51
A39499	TCR PAN α/β (Human); Clone: IP26A; PE; ASR; 1 mL	129
A39500	TCR PAN α/β (Human); Clone: IP26A; PC5; ASR; 0.5 mL	129
A40174	IgE (De2) (Human); Clone: E124.2.8; UNLB; ASR; 0.2 mg	122
A40316	CD138 (Human); Clone: B-A38; PE; ASR; 2 mL	92
A40317	CD138 (Human); Clone: B-A38; PC5; ASR; 1 mL	92
A40579	HLA-DR (Human); Clone: Immu-357; PC7; ASR; 0.5 mL	120
A40926	CD352 (Human); Clone: MA127; PE; RUO; 50 tests	114
A46135	Cassette Type A labels	252, 287
A46136	Cassette Type B labels	252, 287
A46138	Cassette Type D labels	252, 287

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Part #	Description	Page
A46526	CD7 (Human); Clone: 8H8.1; PC7; ASR; 1 mL	37
A46527	CD10 (Human); Clone: ALB1; PC7; ASR; 1 mL	40
A46528	CD13 (Human); Clone: Immul03.44; PC7; ASR; 1 mL	43
A46529	CD85k (Human); Clone: ZM3.8; PC7; ASR; 1 mL	81
A47882	MAX-XP Biosafe; Includes centrifuge and HEPA filter	260
A49080	CD278 (Human); Clone: ISA-3; PE; RUO; 100 tests	108
A51074	CD2 (Human); Clone: 39C1.5; PC7; ASR; 1 mL	33
A51075	CD5 (Human); Clone: BL1a; PC7; ASR; 1 mL	36
A51076	CD20 (Human); Clone: B9E9; APC; ASR; 1 mL	49
A51077	CD34 (Human); Clone: 581; PC7; ASR; 1 mL	57
A51078	CD56 (Human); Clone: N901; PC7; ASR; 1 mL	70
A52635	NKp80 (Human); Clone: MA152; PE; ASR; 1 mL	127
A52882	CD25 (Human); Clone: B1.49.9; PC7; ASR; 1 mL	52
A53365	CD122 (Human); Clone: CF1; PC7; ASR; 1 mL	88
A54139	CD45 (Human); Clone: J33; PC5.5; ASR; 1 mL	64
A54189	CD38 (Human); Clone: LS198-4-3; PC7; ASR; 0.5 mL	59
A54190	CD138 (Human); Clone: B-A38; PE; CE/IVD; 100 tests	92
A54191	CD138 (Human); Clone: B-A38; PC5; CE/IVD; 100 tests	92
A54822	CD11b (Human); Clone: Bear1; PC7; ASR; 1 mL	41
A54823	CD27 (Human); Clone: 1A4CD27; PC7; ASR; 1 mL	53
A54824	CD33 (Human); Clone: D3HL60.251; PC7; ASR; 1 mL	56
A60790	CD5 (Human); Clone: BL1a; APC; ASR; 1 mL	36
A60791	CD22 (Human); Clone: SJ10.1H11; APC; ASR; 0.5 mL	50
A60792	CD38 (Human); Clone: LS198-4-3; APC; ASR; 1 mL	59
A60793	CD79a (Human); Clone: HM47; APC; ASR; 1 mL	78
A60794	CD2 (Human); Clone: 39C1.5; APC; ASR; 1 mL	33
A60795	CD158e1/e2 (Human); Clone: Z27.3.7; APC; ASR; 0.5 mL	96
A60796	CD158i (Human); Clone: FES172; APC; ASR; 0.5 mL	97
A60797	CD159a (Human); Clone: Z199; APC; ASR; 0.5 mL	98
A62833	IgG1 (Mouse); Clone: 679.1Mc7; PC5.5; CE/IVD; 100 tests	149
A62834	IgG1 (Mouse); Clone: 679.1Mc7; PC5.5; ASR; 1 mL	149
A62835	CD45 (Human); Clone: J33; PC5.5; CE/IVD; 100 tests	64
A63492	Flow-Set Pro Fluorospheres; IVD; 3 x 10 mL	216, 224
A63493	Flow-Check Pro Fluorospheres; IVD; 3 x 10 mL	216, 224
A63663	TCR V $\gamma$ 9 (Human); Clone: IMMU 360; PC5; ASR; 0.5 mL	144
A64615	CD309 (Human); Clone: KDR-1; PE; ASR; 2 mL	110
A64616	CD309 (Human); Clone: KDR-1; PC7; ASR; 1 mL	110
A64617	CD127 (Human); Clone: R34.34; PC5; ASR; 1 mL	89
A64618	CD127 (Human); Clone: R34.34; PC7; ASR; 1 mL	89
A64669	Flow-Clean Cleaning Agent; IVD; 500 mL	241, 270
A64827	$\lambda$ Chain (Human); PE; ASR; 2 mL	125

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A64828	$\kappa$ Chain (Human); FITC; ASR; 2 mL	124
A66085	CD106 (Human); Clone: 1G11; PE; RUO; 100 tests	85
A66327	CD3 (Human); Clone: UCHT1; PC5.5; ASR; 0.5 mL	34
A66328	CD19 (Human); Clone: J3-119; PC5.5; ASR; 0.5 mL	48
A66329	CD3 (Human); Clone: UCHT1; APC-A750; ASR; 0.5 mL	34
A66330	CD16 (Human); Clone: 3G8; APC-A750; ASR; 0.5 mL	46
A66331	CD20 (Human); Clone: B9E9; APC-A750; ASR; 0.5 mL	49
A66332	CD8 (Human); Clone: B9.11; APC-A700; ASR; 0.5 mL	38
A66333	CD117 (Human); Clone: 104D2D1; PC5.5; ASR; 0.5 mL	87
A66898	CD158a,h (Human); Clone: EB6B; PC5.5; ASR; 0.5 mL	95
A66899	CD158a,h (Human); Clone: EB6B; PC7; ASR; 0.5 mL	95
A66900	CD158b1/b2,j (Human); Clone: GL183; PC5.5; ASR; 0.5 mL	96
A66901	CD158b1/b2,j (Human); Clone: GL183; PC7; ASR; 0.5 mL	96
A66902	CD335 (Human); Clone: BAB281; PC5; ASR; 0.5 mL	112
A66903	CD336 (Human); Clone: Z231; PC5; ASR; 0.5 mL	113
A66904	CD337 (Human); Clone: Z25; PC5; ASR; 0.5 mL	113
A66905	TCR V $\beta$ 11 (Human); Clone: C21; APC; ASR; 0.5 mL	137
A66906	CD203c (Human); Clone: 97A6; PC7; ASR; 1 mL	103
A66907	TCR V $\alpha$ 24 (Human); Clone: C15; PC7; ASR; 0.5 mL	131
A69183	Flow-Check Pro Fluorospheres; RUO; 3 x 10 mL	224
A69184	Flow-Set Pro Fluorospheres; RUO; 3 x 10 mL	224
A69964	CD23 (Human); Clone: 9P25; APC; ASR; 1 mL	51
A70188	PuraFlow Sheath Fluid; RUO; 20 L	242
A70198	CD33 (Human); Clone: D3HL60.251; PC5.5; ASR; 0.5 mL	56
A70200	CD33 (Human); Clone: D3HL60.251; APC-A750; ASR; 0.5 mL	56
A70201	CD7 (Human); Clone: 8H8.1; APC-A700; ASR; 0.5 mL	37
A70202	CD7 (Human); Clone: 8H8.1; ECD; ASR; 1 mL	37
A70203	CD5 (Human); Clone: BL1a; PC5.5; ASR; 0.5 mL	36
A70204	CD14 (Human); Clone: RM052; PC5.5; ASR; 0.5 mL	44
A70205	CD38 (Human); Clone: LS198-4-3; PC5.5; ASR; 0.5 mL	59
A70207	CD23 (Human); Clone: 9P25; APC-A700; ASR; 0.5 mL	51
A71116	CD127 (Human); Clone: R34.34; APC-A700; ASR; 0.5 mL	89
A71117	CD45 (Human); Clone: J33; APC-A700; ASR; 1 mL	64
A71118	IgG1 (Mouse); Clone: 679.1Mc7; APC-A700; ASR; 1 mL	149
A71119	CD45 (Human); Clone: J33; APC-A750; ASR; 1 mL	64
A71120	IgG1 (Mouse); Clone: 679.1Mc7; APC-A750; ASR; 1 mL	149
A71564	CD235a (Human); Clone: 11E4B-7-6; PC7; ASR; 1 mL	106
A74763	CD45 (Human); Clone: J33; PB; CE/IVD; 100 tests	64
A74764	IgG1 (Mouse); Clone: 679.1Mc7; PB; CE/IVD; 100 tests	149
A74765	CD45 (Human); Clone: J33; PB; ASR; 1 mL	64
A74766	IgG1 (Mouse); Clone: 679.1Mc7; PB; ASR; 1 mL	149

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A74775	CD15 (Human); Clone: 80H5; PB; ASR; 0.5 mL	45
A74777	CD20 (Human); Clone: B9E9; PB; ASR; 0.5 mL	49
A74779	CD57 (Human); Clone: NCI; PB; ASR; 0.5 mL	71
A74781	HLA-DR (Human); Clone: Immu-357; PB; ASR; 0.5 mL	120
A74788	CD22 (Human); Clone: SJ10.1H11; PC7; ASR; 1 mL	50
A78835	CD5 (Human); Clone: BL1a; APC-A700; ASR; 0.5 mL	36
A78836	CD5 (Human); Clone: BL1a; APC-A750; ASR; 0.5 mL	36
A78837	CD19 (Human); Clone: J3-119; APC-A700; ASR; 0.5 mL	48
A78838	CD19 (Human); Clone: J3-119; APC-A750; ASR; 0.5 mL	48
A78884	CD274 (Human); Clone: PD-L1; PC7; RUO; 50 tests	107
A78885	CD279 (Human); Clone: PD1.3; PC7; ASR; 0.5 mL	108
A78886	DAP12 (Human); Clone: H10E12F4; PE; RUO; 100 tests	116
A79386	CD25 (Human); Clone: B1.49.9; PC5.5; ASR; 0.5 mL	52
A79388	CD56 (Human); Clone: N901; PC5.5; ASR; 0.5 mL	70
A79389	CD13 (Human); Clone: Immu103.44; PC5.5; ASR; 0.5 mL	43
A79390	CD45 (Human); Clone: J33; APC-A700; CE/IVD; 100 tests	64
A79391	IgG1 (Mouse); Clone: 679.1Mc7; APC-A700; CE/IVD; 100 tests	149
A79392	CD45 (Human); Clone: J33; APC-A750; CE/IVD; 100 tests	64
A79393	IgG1 (Mouse); Clone: 679.1Mc7; APC-A750; CE/IVD; 100 tests	149
A80249	CD11c (Human); Clone: BU15; PC7; ASR; 1 mL	42
A80710	CD69 (Human); Clone: TP1.55.3; PC7; ASR; 1 mL	76
A80711	CD69 (Human); Clone: TP1.55.3; APC; ASR; 1 mL	76
A80712	CD22; Clone: SJ10.1H11; PC5.5; ASR; 0.5 mL	50
A82789	CD4 (Human); Clone: 13B8.2; PB; ASR; 0.5 mL	35
A82790	CD5 (Human); Clone: BL1a; PB; ASR; 0.5 mL	36
A82791	CD8 (Human); Clone: B9.11; PB; ASR; 0.5 mL	38
A82792	CD16 (Human); Clone: 3G8; PB; ASR; 0.5 mL	46
A82943	CD56 (Human); Clone: N901; ECD; ASR; 1 mL	70
A82944	CD25 (Human); Clone: B1.49.9; PB; ASR; 0.5 mL	52
A82946	CD45RA (Human); Clone: 2H4LDH11LDB9; PB; ASR; 0.5 mL	65
A82959	Kaluza Software Kit Single User, Perpetual; RUO	284
A82961	Kaluza Software Kit 10 User Network; RUO	284
A83477	CD20 (Human); Clone: H299; UNLB; ASR; 0.25 mg	49
A84174	Kaluza Software Kit 1 year Single User renewable license; RUO	284
A84175	Kaluza Software Kit 5 User Network; RUO	284
A86049	CD38 (Human); Clone: LS198-4-3; APC-A750; ASR; 0.5 mL	59
A86050	CD45RA (Human); Clone: 2H4LDH11LDB9; APC-A750; ASR; 0.5 mL	65
A86051	CD117 (Human); Clone: 104D2D1; APC-A750; ASR; 0.5 mL	87
A86052	CD14 (Human); Clone: RMO52; APC-A750; ASR; 0.5 mL	44
A86353	CD10 (Human); Clone: ALB1; APC-A700; ASR; 0.5 mL	40
A86354	CD34 (Human); Clone: 581; APC-A700; ASR; 0.5 mL	57

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A86355	CD19 (Human); Clone: J3-119; PB; ASR; 0.5 mL	48
A86356	CD25 (Human); Clone: B1.49.9; APC-A700; ASR; 0.5 mL	52
A87782	CD11b (Human); Clone: Bear1; APC; ASR; 0.5 mL	41
A87783	CD13 (Human); Clone: Immu103.44; APC; ASR; 0.5 mL	43
A87784	CD79b (Human); Clone: CB3-1; APC; ASR; 0.5 mL	78
A87785	CD24 (Human); Clone: ALB9; APC; ASR; 0.5 mL	51
A87786	CD36 (Human); Clone: FA6.152; APC; ASR; 0.5 mL	58
A87787	CD138 (Human); Clone: B-A38; APC; ASR; 0.5 mL	92
A87789	CD81 (Human); Clone: JS64; APC; ASR; 0.5 mL	79
A87939	CD30 (Human); Clone: HRS4; APC; ASR; 0.5 mL	55
A89307	CD43 (Human); Clone: DFT1; APC-A750; ASR; 0.5 mL	63
A89308	CD64 (Human); Clone: 22; APC-A750; ASR; 0.5 mL	74
A89309	CD34 (Human); Clone: 581; APC-A750; ASR; 0.5 mL	57
A89310	CD10 (Human); Clone: ALB1; APC-A750; ASR; 0.5 mL	40
A89311	CD22 (Human); Clone: SJ10.1H11; APC-A700; ASR; 0.5 mL	50
A89313	CD71 (Human); Clone: YD1.2.2; APC-A750; ASR; 0.5 mL	77
A89314	CD235a (Human); Clone: 11E4B-7-6; APC-A750; ASR; 0.5 mL	106
A93687	CD3 (Human); Clone: UCHT1; PB; ASR; 0.5 mL	34
A93689	CD23 (Human); Clone: 9P25; PB; ASR; 0.5 mL	51
A94246	CD45 (Human); Clone: J33; AF647; ASR; 1 mL	64
A94468	Optima XPN-90K; XPN-90K	261
A94469	Optima XPN-100K; XPN-100K	261
A94680	CD3 (Human); Clone: UCHT1; APC-A750; CE/IVD; 50 tests	34
A94681	CD19 (Human); Clone: J3-119; APC-A750; CE/IVD; 50 tests	48
A94682	CD4 (Human); Clone: 13B8.2; APC-A750; CE/IVD; 50 tests	35
A94683	CD8 (Human); Clone: B9.11; APC-A750; CE/IVD; 50 tests	38
A94685	CD4 (Human); Clone: 13B8.2; APC-A750; ASR; 0.5 mL	35
A94686	CD8 (Human); Clone: B9.11; APC-A750; ASR; 0.5 mL	38
A95761	Optima MAX-TL; MAX-TL	260
A95765	Optima XPN-80K; XPN-80K	261
A96415	IgG1 (Mouse); Clone: 679.1Mc7; KrO; ASR; 1 mL	149
A96416	CD45 (Human); Clone: J33; KrO; ASR; 1 mL	64
A96417	CD4 (Human); Clone: 13B8.2; KrO; ASR; 0.5 mL	35
A96418	CD19 (Human); Clone: J3-119; KrO; ASR; 0.5 mL	48
A97050	CD7 (Human); Clone: 8H8.1; APC; ASR; 0.5 mL	37
A97051	CD71 (Human); Clone: YD1.2.2; APC-A700; ASR; 0.5 mL	77
A97052	CD11b (Human); Clone: Bear1; APC-A750; ASR; 0.5 mL	41
A98434	CD64 (Human); Clone: 22; ECD; ASR; 0.5 mL	74
A98835	CD138 (Human); Clone: B-A38; PC5.5; ASR; 0.5 mL	92
A99019	CD8 (Human); Clone: SFC121Thy2D3; PC5.5; ASR; 0.5 mL	38
A99020	CD14 (Human); Clone: RMO52; APC-A700; ASR; 0.5 mL	44

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A99021	TCR PAN $\gamma/\delta$ (Human); Clone: IMMU510; PCS.5; ASR; 0.5 mL	130
A99022	CD38 (Human); Clone: LS198-4-3; ECD; ASR; 0.5 mL	59
A99023	CD8 (Human); Clone: SFC121Thy2D3; APC; ASR; 0.5 mL	38
A99839	Optima XPN-80K; XPN-80K; IVD	261
A99842	Optima XPN-90K; XPN-90K; IVD	261
A99846	Optima XPN-100K; XPN-100K; IVD	261
A01-1-0048	405/10 nm Bandpass Filter	288
A01-1-0049	450/45 nm Bandpass Filter	288
A01-1-0050	488/8 nm Bandpass Filter	288
A01-1-0051	525/40 nm Bandpass Filter	288
A01-1-0052	585/42 nm Bandpass Filter	288
A01-1-0053	610/20 nm Bandpass Filter	288
A01-1-0054	638/6 nm Bandpass Filter	288
A01-1-0055	660/10 nm Bandpass Filter	288
A01-1-0056	690/50 nm Bandpass Filter	288
A01-1-0057	712/25 nm Bandpass Filter	288
A01-1-0058	780/60 nm Bandpass Filter	288
A04-1-0034	Sample needle	288
A04-1-0036	Sheath Bottle	288
A04-1-0037	Waste Bottle	288
A04-1-0038	Deep Clean Solution Bottle	288
A04-1-0041	Sheath Filter	288
A04-1-0048	Peristaltic Sample Tubing	288
<b>B</b>		
B00067	CD8 (Human); Clone: B9.11; KrO; ASR; 0.5 mL	38
B00068	CD3 (Human); Clone: UCHT1; KrO; ASR; 0.5 mL	34
B00069	CD16 (Human); Clone: 3G8; KrO; ASR; 0.5 mL	46
B00070	HLA-DR (Human); Clone: Immu-357; KrO; ASR; 0.5 mL	120
B00845	CD16 (Human); Clone: 3G8; APC; ASR; 0.5 mL	46
B00846	CD14 (Human); Clone: RM052; PB; ASR; 0.5 mL	44
B01175	CD14 (Human); Clone: RM052; KrO; ASR; 0.5 mL	44
B01176	CD15 (Human); Clone: 80H5; KrO; ASR; 0.5 mL	45
B01680	CD11c (Human); Clone: BU15; APC; ASR; 0.5 mL	42
B01681	CD2 (Human); Clone: 39C1.5; APC-A750; ASR; 0.5 mL	33
B01682	CD49d (Human); Clone: HP2/1; APC; ASR; 0.5 mL	67
B06025	CD64 (Human); Clone: 22; PC7; ASR; 0.5 mL	74
B06026	CD48 (Human); Clone: J4.57; ECD; ASR; 0.5 mL	66
B06204	CD103 (Human); Clone: 2G5; APC; ASR; 0.5 mL	84
B06376	CD123 (Human); Clone: SSDCLY107D2; APC; ASR; 0.5 mL	88
B06498	CD22 (Human); Clone: SJ10.1H11; PB; ASR; 0.5 mL	50
B06499	CD7 (Human); Clone: 8H8.1; PB; ASR; 0.5 mL	37

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Part #	Description	Page
B06666	TCR VB7.2 (Human); Clone: ZIZOU4; FITC; ASR; 1 mL	135
B07084	TCR VB4 (Human); Clone: WJF24; FITC; ASR; 1 mL	133
B07225	TCR VB13.6 (Human); Clone: JU74.3; PE; ASR; 1 mL	139
<b>B07575</b>	Cassette Type B	252, 287
<b>B07577</b>	Cassette Type D	252, 287
B08164	CD65 (Human); Clone: 88H7; PB; ASR; 0.5 mL	75
<b>B08260</b>	Cassette Type A+	252, 287
B08466	FMC7 (Human); Clone: FMC7; PB; ASR; 0.5 mL	116, 49
B08467	CD8 (Human); Clone: B9.11; ECD; ASR; 0.5 mL	38
B08756	CD66b (Human); Clone: 80H3; APC-A750; ASR; 0.5 mL	75
B08757	CD28 (Human); Clone: CD28.2; APC-A750; ASR; 0.5 mL	54
B09683	CD38 (Human); Clone: LS198-4-3; PB; ASR; 0.5 mL	59
B09684	CD25 (Human); Clone: B1.49.9; APC; ASR; 0.5 mL	52
B09685	CD2 (Human); Clone: 39C1.5; PB; ASR; 0.5 mL	33
B09979	CD9 (Human); Clone: ALB6; PB; ASR; 0.5 mL	39
B09980	CD94 (Human); Clone: HP-3B1; APC; ASR; 0.5 mL	83
B09981	IgG2a-FITC/IgG1-PE; RUO; 50 tests	166
B09982	CD21 (Human); Clone: BL13; PB; ASR; 0.5 mL	50
B09983	CD27 (Human); Clone: 1A4CD27; APC; ASR; 0.5 mL	53
B10244	CD28 (Human); Clone: CD28.2; APC; ASR; 0.5 mL	54
B10245	CD22 (Human); Clone: SJ10.1H11; ECD; ASR; 0.5 mL	50
B10246	CD159a (Human); Clone: Z199; PC7; ASR; 0.5 mL	98
B10247	TCR PAN $\gamma/\delta$ (Human); Clone: IMMU510; PC7; ASR; 0.5 mL	130
B10300	Baker SterilGARD BSL2 Cabinet; 100V version; RUO	277, 289
B10301	Baker SterilGARD BSL2 Cabinet; 220-240V version; RUO	277, 289
B10302	Baker SterilGARD BSL2 Cabinet; 110-120V version; RUO	277, 289
B10738	CD24 (Human); Clone: ALB9; APC-A750; ASR; 0.5 mL	51
B10739	ZAP-70 (Human); Clone: SBZAP; UNLB; RUO; 50 tests	147
B10821	CD45RA (Human); Clone: 2H4LDH1LDB9; PC7; ASR; 0.5 mL	65
B10822	CD56 (Human); Clone: N901; APC-A700; ASR; 0.5 mL	70
B10823	CD3 (Human); Clone: UCHT1; APC-A700; ASR; 0.5 mL	34
B10824	CD4 (Human); Clone: 13B8.2; APC-A700; ASR; 0.5 mL	35
B10825	PerFix-nc; RUO; 75 tests	235
B10826	PerFix-nc; RUO; 150 tests	235
B11229	MAX-TL Biosafe; Includes centrifuge and HEPA filter	260
B12111	CD2 (Human); Clone: 39C1.5; APC-A700; ASR; 0.5 mL	33
B12112	CD20 (Human); Clone: B9E9; APC-A700; ASR; 0.5 mL	49
B12696	CD28 (Human); Clone: CD28.2; APC-A700; ASR; 0.5 mL	54
B12699	CD24 (Human); Clone: ALB9; ECD; ASR; 0.5 mL	51
B12700	CD127 (Human); Clone: R34.34; APC-A750; ASR; 0.5 mL	89
B12701	CD27 (Human); Clone: 1A4CD27; APC-A750; ASR; 0.5 mL	53

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B12934	CD107a (Human); Clone: H4A3; APC; ASR; 0.5 mL	86
B12935	CD23 (Human); Clone: 9P25; PC7; ASR; 0.5 mL	51
B13035	CD31 (Human); Clone: 5.6E; PB; ASR; 0.5 mL	55
B13647	CD123 (Human); Clone: SSDCLY107D2; PC7; ASR; 0.5 mL	88
B13648	CD45RO (Human); Clone: UCHL1; PC7; ASR; 0.5 mL	66
B13649	CD9 (Human); Clone: ALB6; APC-A750; ASR; 0.5 mL	39
B13978	CD107a (Human); Clone: H4A3; PB; ASR; 0.5 mL	86
B13979	CD25 (Human); Clone: B1.49.9; APC-A750; ASR; 0.5 mL	52
B13980	CD42b (Human); Clone: SZ2; APC; ASR; 0.5 mL	62
B13981	TCR PAN $\alpha/\beta$ (Human); Clone: IP26A; APC; ASR; 0.5 mL	129
B14807	CD45RA (Human); Clone: ZH4LDHILDB9; APC; ASR; 0.5 mL	65
B14808	CD123 (Human); Clone: 9F5; PE; ASR; 1 mL	88
B15091	CD66b (Human); Clone: 80H3; APC; ASR; 0.5 mL	75
B15092	Cyclin A2 (Human); Clone: 11B2G3; PE; ASR; 1 mL	115
B16406	Kaluza Software Kit Single User Perpetual Educational License; RUO	284
B16407	Kaluza Software Kit 1 year Single User Educational License; RUO	284
B16408	Kaluza Software Kit 5 User Network Educational License; RUO	284
B16409	Kaluza Software Kit 10 User Network Educational License; RUO	284
B16490	CD10 (Human); Clone: ALB1; PC5.5; ASR; 0.5 mL	40
B16491	CD4 (Human); Clone: 13B8.2; PC5.5; ASR; 0.5 mL	35
B16492	CD6 (Human); Clone: ZH46D3B; FITC; ASR; 1 mL	37
B16891	CD11b (Human); Clone: Bear1; PB; ASR; 0.5 mL	41
B16892	CD7 (Human); Clone: 8H8.1; APC-A750; ASR; 0.5 mL	37
B16893	CD49d (Human); Clone: HP2/1; APC-A750; ASR; 0.5 mL	67
B16894	CD41 (Human); Clone: P2; APC; ASR; 0.5 mL	61
B19714	CD13 (Human); Clone: 366; PC7; ASR; 0.5 mL	43
B19715	CD158f (Human); Clone: UP-RI; PE; ASR; 1 mL	97
B19716	CD158f (Human); Clone: UP-RI; APC; ASR; 0.5 mL	97
B19717	CD81 (Human); Clone: JS64; PB; ASR; 0.5 mL	79
B19718	CD64 (Human); Clone: 22; PB; ASR; 0.5 mL	74
B19719	CD11c (Human); Clone: BUI5; PC5.5; ASR; 0.5 mL	42
B20022	CD123 (Human); Clone: SSDCLY107D2; PC5.5; ASR; 0.5 mL	88
B20023	CD16 (Human); Clone: 3G8; APC-A700; ASR; 0.5 mL	46
B20024	HLA-DR (Human); Clone: Immu-357; PC5.5; ASR; 0.5 mL	120
B20025	CD40 (Human); Clone: MAB89; PC5.5; ASR; 0.5 mL	60
B20027	CD123 (Human); Clone: SSDCLY107D2; ECD; ASR; 0.5 mL	88
B21171	CD244 (Human); Clone: C1.7; PC5.5; ASR; 0.5 mL	107
B21172	CD61 (Human); Clone: SZ21; PC5.5; ASR; 0.5 mL	72
B21205	CD8 (Human); Clone: B9.11; PC5.5; ASR; 0.5 mL	38
B21444	CD27 (Human); Clone: 1A4CD27; PC5.5; ASR; 0.5 mL	53
B21445	CD79b (Human); Clone: CB3-1; PC5.5; ASR; 0.5 mL	78

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B22804	VersaComp Antibody Capture Kit; LUO; 2 vials	225
B23132	Myeloperoxidase (Human); Clone: CLB-MPO-1; PC5.5; ASR; 0.5 mL	126
B23133	CD24 (Human); Clone: ALB9; PC5.5; ASR; 0.5 mL	51
B23134	CD20 (Human); Clone: B9E9; PC5.5; ASR; 0.5 mL	49
B23313	CD28 (Human); Clone: CD28.2; PC7; ASR; 0.5 mL	54
B23489	CD38 (Human); Clone: LS198-4-3; APC-A700; ASR; 0.5 mL	59
B23502	AQUIOS Deep Well Plate; Case of 50 plates	207, 281, 287
B23533	AQUIOS Tetra-1 Panel; IVD; 50 tests	205, 280
B23534	AQUIOS Tetra-2+ Panel; IVD; 50 tests	205, 280
B23535	AQUIOS IMMUNO-TROL Cells; IVD; 2 x 3 mL	206, 226, 280
B23536	AQUIOS Sodium Hypochlorite Solution; IVD; 4 x 50 mL	207, 241, 280
B23538	AQUIOS Lysing Reagent Kit; IVD; 100 tests	206, 242, 280
B24026	CD13 (Human); Clone: SJ1D1; ECD; ASR; 0.5 mL	43
B24027	CD28 (Human); Clone: CD28.2; PC5.5; ASR; 0.5 mL	54
B24028	CD123 (Human); Clone: SSDCLY107D2; APC-A700; ASR; 0.5 mL	88
B25218	Cassette Type 1	287
B25219	Cassette Type 2	287
B25220	Cassette Type 3	287
B25221	Cassette Type 4	287
B25318	Cassette Type 5	287
B25329	CD81 (Human); Clone: JS64; FITC; ASR; 1 mL	79
B25330	CD1a (Human); Clone: BL6; FITC; ASR; 1 mL	32
B25366	CD127 (Human); Clone: R34.34; FITC; ASR; 1 mL	89
B25595	DRAQ7 dye; RUO; 200 tests	238
B25697	AQUIOS Sheath Solution; IVD; 1 x 10 L	206, 242, 280
B25698	AQUIOS Cleaning Agent; IVD; 500 mL	207, 241, 280
B25700	AQUIOS IMMUNO-TROL Low Cells; IVD; 2 x 3 mL	206, 226, 280
B25918	Cassette Type 6	287
B25982	MoFlo Astrios EQ; RUO	276
B26603	CD27 (Human); Clone: 1A4CD27; ECD; ASR; 0.5 mL	53
B26604	CD62L (Human); Clone: DREG56; APC-A750; ASR; 0.5 mL	73
B26976	PerFix EXPOSE; RUO; 75 tests	234
B29559	Lineage-PE Cocktail; RUO; 100 tests	214
B30437	DAPI; LUO; 200 tests	237
B30629	CD134 (Human); Clone: Ber-ACT35; APC; ASR; 0.5 mL	90
B30630	CD161 (Human); Clone: 191B8; APC-A750; ASR; 0.5 mL	99
B30631	CD161 (Human); Clone: 191B8; PC7; ASR; 0.5 mL	99
B30632	CD197 (Human); Clone: G043H7; PE; ASR; 1 mL	102
B30633	CD279 (Human); Clone: PD1.3; APC; ASR; 0.5 mL	108
B30634	CD279 (Human); Clone: PD1.3; PE; ASR; 1 mL	108
B30635	CD27 (Human); Clone: 1A4CD27; PB; ASR; 0.5 mL	53

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Part #	Description	Page
B30636	CD40 (Human); Clone: MAB89; APC; ASR; 0.5 mL	60
B30637	CD44 (Human); Clone: J.173; APC-A750; ASR; 0.5 mL	63
B30638	CD45RO (Human); Clone: UCHL1; PC5.5; ASR; 0.5 mL	66
B30639	CD62L (Human); Clone: DREG56; APC; ASR; 0.5 mL	73
B30640	CD62L (Human); Clone: DREG56; PB; ASR; 0.5 mL	73
B30641	CD62L (Human); Clone: DREG56; PC7; ASR; 0.5 mL	73
B30642	CD80 (Human); Clone: MAB104; APC; ASR; 0.5 mL	79
B30643	CD80 (Human); Clone: MAB104; APC-A750; ASR; 0.5 mL	79
B30644	CD80 (Human); Clone: MAB104; PC7; ASR; 0.5 mL	79
B30645	CD85j (Human); Clone: HP-F1; APC; ASR; 0.5 mL	81
B30646	CD86 (Human); Clone: HA5.2B7; APC-A750; ASR; 0.5 mL	82
B30647	CD86 (Human); Clone: HA5.2B7; PC5.5; ASR; 0.5 mL	82
B30648	CD86 (Human); Clone: HA5.2B7; PC7; ASR; 0.5 mL	82
B30649	CD90 (Human); Clone: Thyl/310; PB; ASR; 0.5 mL	82
B30650	FoxP3 (Human); Clone: 259D; AF647; ASR; 0.5 mL	117
B30651	IgD (Human); Clone: IA6-2; APC; RUO; 50 tests	121
B30652	IgD (Human); Clone: IA6-2; FITC; RUO; 50 tests	121
B30653	IgD (Human); Clone: IA6-2; PE; RUO; 50 tests	121
B30654	IgM (Human); Clone: SA-DA4; APC; RUO; 50 tests	122
B30655	IgM (Human); Clone: SA-DA4; FITC; RUO; 50 tests	122
B30656	IgM (Human); Clone: SA-DA4; PB; RUO; 50 tests	122
B30657	IgM (Human); Clone: SA-DA4; PE; RUO; 50 tests	122
B31167	PerFix-nc; IVD; 75 tests	235
B31168	PerFix-nc; IVD; 150 tests	235
B31892	Color Laser Printer ; 1 unit	281, 287
B34182	Avanti JXN-26; 220V, 3-PH, 50 HZ, 12A	258
B34183	Avanti JXN-26; 200-240V, 3 phases, 50-60 Hz, 24A	258
B34192	Avanti JXN-30; 220V, 3 phases, 50 Hz, 12A	259
B34193	Avanti JXN-30; 200/208/240V, 50/60 Hz, 24A	259
B35622	Data Innovations Hardware Computer System	272, 289
B36119	CD206 (Human); Clone: 3.29B1.10; PB; ASR; 0.5 mL	103
B36120	CD206 (Human); Clone: 3.29B1.10; PC7; ASR; 0.5 mL	103
B36121	CD90 (Human); Clone: Thyl/310; APC-A750; ASR; 0.5 mL	82
B36123	CD279 (Human); Clone: PD1.3; PC5.5; ASR; 0.5 mL	108
B36126	CD274 (Human); Clone: PD-L1; APC; ASR; 0.5 mL	107
B36127	CD278 (Human); Clone: ISA-3; APC; ASR; 0.5 mL	108
B36286	CD13 (Human); Clone: Immul03.44; ECD; CE/IVD; 100 tests	43
B36287	CD79a (Human); Clone: HM47; APC; CE/IVD; 100 tests	78
B36288	Myeloperoxidase (Human); Clone: CLB-MPO-1; PE; CE/IVD; 100 tests	126
B36289	CD33 (Human); Clone: D3HL60.251; PC5.5; CE/IVD; 50 tests	56
B36290	CD7 (Human); Clone: 8H8.1; APC-A700; CE/IVD; 50 tests	37

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B36291	HLA-DR (Human); Clone: Immu-357; PB; CE/IVD; 50 tests	120
B36292	CD16 (Human); Clone: 3G8; PB; CE/IVD; 50 tests	46
B36293	CD22 (Human); Clone: SJ10.1H11; APC-A700; CE/IVD; 50 tests	50
B36294	CD45 (Human); Clone: J33; Kr0; CE/IVD; 100 tests	64
B36295	CD11b (Human); Clone: Bear1; APC-A750; CE/IVD; 50 tests	41
B36296	CD11b (Human); Clone: Bear1; PB; CE/IVD; 50 tests	41
B36297	CD14 (Human); Clone: RM052; FITC; CE/IVD; 100 tests	44
B36298	CD15 (Human); Clone: 80H5; FITC; CE/IVD; 100 tests	45
B36299	CD65 (Human); Clone: 88H7; FITC; CE/IVD; 100 tests	75
B36300	CD117 (Human); Clone: 104D2D1; APC; CE/IVD; 100 tests	87
B36862	CD3-PE-Dy649/HLA-B27-PE/HLA-B7; CE/IVD; 50 tests	194
B37788	CD138 (Human); Clone: B-A38; PB; ASR; 0.5 mL	92
B37789	CD44 (Human); Clone: J.173; PB; ASR; 0.5 mL	63
B37912	Avanti JXN-26; 230V, 50-Hz, 24A	258
B37913	Avanti JXN-30; 230V, 50 Hz, 24A	259
B38307	CD117 (Human); Clone: 104D2D1; ECD; ASR; 0.5 mL	87
B38618	Avanti JXN-26; 220V, 3-PH, 50 HZ, 12A; IVD	258
B38619	Avanti JXN-26; 200-240V, 3 phases, 50-60 Hz, 24A; IVD	258
B38620	Avanti JXN-30; 220V, 3 phases, 50 Hz, 12A; IVD	259
B38621	Avanti JXN-30; 200/208/240V, 50/60 Hz, 24A; IVD	259
B38623	Avanti JXN-26; 230V, 50-Hz, 24A; IVD	258
B38624	Avanti JXN-30; 230V, 50 Hz, 24A; IVD	259
B38703	CD335 (Human); Clone: BAB281; PC7; ASR; 0.5 mL	112
B39101	Blue (B) Series; AQUIOS CL (100-120v); IVD	279
B39102	Blue (B) Series; AQUIOS CL (220-240v); IVD	279
B39492	CD4-Atto488/CD8-PE/CD3-PE-Dy649; CE/IVD; 50 tests	193
B42017	CD30 (Human); Clone: HRS4; APC-A700; ASR; 0.5 mL	55
B42018	CD79a (Human); Clone: HM47; PC5.5; ASR; 0.5 mL	78
B42019	CD138 (Human); Clone: B-A38; Kr0; ASR; 0.5 mL	92
B42020	CD294 (Human); Clone: BM16; FITC; ASR; 1 mL	109
B42021	HLA-DR (Human); Clone: Immu-357; APC-A750; ASR; 0.5 mL	120
B42026	CD127 (Human); Clone: R34.34; APC; ASR; 0.5 mL	89
B42535	AQUIOS PLG Panel; CE/IVD; 50 tests	208
B43019	AQUIOS VersaFix Lysing Reagent; CE/IVD; 50 tests	208, 209, 230, 280
B43020	AQUIOS VersaFix Lysing Reagent; CE/IVD; 8 x 50 tests	208, 209, 230, 281
B43289	CD141 (Human); Clone: M80; FITC; ASR; 1 mL	92
B43291	CD370 (Human); Clone: 8F9; APC; ASR; 0.5 mL	114
B43293	CD105 (Human); Clone: TEA3/17.1.1; PC7; ASR; 0.5 mL	85
B43299	CD200 (Human); Clone: OX-104; PC7; ASR; 0.5 mL	102
B43301	CD200 (Human); Clone: OX-104; APC-A750; ASR; 0.5 mL	102
B43302	CD36 (Human); Clone: FA6.152; PB; ASR; 0.5 mL	58

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B43304	CD11c (Human); Clone: BUI5; APC-A700; ASR; 0.5 mL	42
B43610	AQUIOS PLG Panel; CE/IVD; 8 x 50 tests	208
B43611	AQUIOS Flow-Count Fluorospheres; CE/IVD; 100 tests	208, 209, 280
B45229	AQUIOS IMMUNO-TROL Cells (PLG/Tetra); CE/IVD; 2 x 3 mL	208
B45230	AQUIOS IMMUNO-TROL Low Cells (PLG/Tetra); CE/IVD; 2 x 3 mL	208
B46022	CD36 (Human); Clone: FA6.152; APC-A700; ASR; 0.5 mL	58
B46023	CD2 (Human); Clone: 39C1.5; ECD; ASR; 0.5 mL	33
B46024	CD56 (Human); Clone: N901; APC-A750; ASR; 0.5 mL	70
B46025	CD197 (Human); Clone: G043H7; PC7; ASR; 0.5 mL	102
B46030	Perforin (Human); Clone: dG9; PB; ASR; 0.5 mL	128
B46031	FoxP3 (Human); Clone: 259D; PE; ASR; 1 mL	117
B46032	FoxP3 (Human); Clone: 259D; PC7; ASR; 0.5 mL	117
B46034	IFN- $\gamma$ (Human); Clone: 45.15; PB; ASR; 0.5 mL	121
B46036	CD1c (Human); Clone: L161; PC5.5; ASR; 0.5 mL	32
B46038	Granzyme B (Human); Clone: GB11; FITC; ASR; 1 mL	117
B47899	Navios Win 7 Workstation and SW Upgrade; IVD	271
B47903	Navios 6 colors, 2 lasers (5+1 configuration); Navios B5-R1; IVD	271
B47904	Navios 8 colors, 2 lasers (5+3 configuration); Navios B5-R3; IVD	271
B47905	Navios 10 colors, 3 lasers; IVD	271
B49174	$\lambda$ Chain (Human); PE; CE/IVD; 100 tests	125
B49175	TCR PAN $\gamma/\delta$ (Human); Clone: IMMU510; FITC; CE/IVD; 50 tests	130
B49176	TCR PAN $\gamma/\delta$ (Human); Clone: IMMU510; PE; CE/IVD; 50 tests	130
B49177	TCR PAN $\alpha/\beta$ (Human); Clone: IP26A; PE; CE/IVD; 50 tests	129
B49178	$\kappa$ Chain (Human); FITC; CE/IVD; 100 tests	124
B49179	IgG1-FITC/IgG2a-PE; CE/IVD; 50 tests	166
B49180	HLA-DR (Human); Clone: Immu-357; PC7; CE/IVD; 50 tests	120
B49181	CD8 (Human); Clone: B9.11; APC-A700; CE/IVD; 50 tests	38
B49182	CD8 (Human); Clone: B9.11; PB; CE/IVD; 50 tests	38
B49183	CD7 (Human); Clone: 8H8.1; PC7; CE/IVD; 100 tests	37
B49184	CD16 (Human); Clone: 3G8; APC-A750; CE/IVD; 50 tests	46
B49185	CD64 (Human); Clone: 22; FITC; CE/IVD; 100 tests	74
B49186	CD64 (Human); Clone: 22; PC5; CE/IVD; 100 tests	74
B49187	CD59 (Human); Clone: P282E; FITC; CE/IVD; 100 tests	72
B49188	CD57 (Human); Clone: NCI; FITC; CE/IVD; 100 tests	71
B49189	CD56 (Human); Clone: N901; PC5.5; CE/IVD; 50 tests	70
B49190	CD55 (Human); Clone: JS1KSC2.3; PE; CE/IVD; 100 tests	69
B49191	CD5 (Human); Clone: BL1a; PC5.5; CE/IVD; 50 tests	36
B49192	CD45RO (Human); Clone: UCHL1; ECD; CE/IVD; 100 tests	66
B49193	CD45RA (Human); Clone: 2H4LDHILDB9; ECD; CE/IVD; 100 tests	65
B49194	CD45RA (Human); Clone: 2H4LDHILDB9; APC-A750; CE/IVD; 50 tests	65
B49195	CD43 (Human); Clone: DFT1; APC-A750; CE/IVD; 50 tests	63

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B49196	CD13 (Human); Clone: Immu103.44; PC5.5; CE/IVD; 50 tests	43
B49197	CD4 (Human); Clone: 13B8.2; PB; CE/IVD; 50 tests	35
B49198	CD38 (Human); Clone: LS198-4-3; PC7; CE/IVD; 50 tests	59
B49199	CD38 (Human); Clone: LS198-4-3; PC5.5; CE/IVD; 50 tests	59
B49200	CD38 (Human); Clone: LS198-4-3; APC-A750; CE/IVD; 50 tests	59
B49201	CD36 (Human); Clone: FA6.152; FITC; CE/IVD; 100 tests	58
B49202	CD34 (Human); Clone: 581; ECD; CE/IVD; 100 tests	57
B49203	CD3 (Human); Clone: UCHT1; PC5.5; CE/IVD; 50 tests	34
B49204	CD3 (Human); Clone: UCHT1; PB; CE/IVD; 50 tests	34
B49205	CD27 (Human); Clone: 1A4CD27; PC7; CE/IVD; 100 tests	53
B49206	CD235a (Human); Clone: 11E4B-7-6; FITC; CE/IVD; 100 tests	106
B49207	CD23 (Human); Clone: 9P25; PE; CE/IVD; 100 tests	51
B49208	CD20 (Human); Clone: B9E9; PB; CE/IVD; 50 tests	49
B49209	CD20 (Human); Clone: B9E9; APC-A750; CE/IVD; 50 tests	49
B49210	CD2 (Human); Clone: 39C1.5; APC; CE/IVD; 100 tests	33
B49211	CD19 (Human); Clone: J3-119; PC5.5; CE/IVD; 50 tests	48
B49212	CD19 (Human); Clone: J3-119; APC-A700; CE/IVD; 50 tests	48
B49213	CD19 (Human); Clone: J3-119; PB; CE/IVD; 50 tests	48
B49214	CD56 (Human); Clone: N901; ECD; CE/IVD; 100 tests	70
B49215	CD16 (Human); Clone: 3G8; FITC; CE/IVD; 100 tests	46
B49216	CD16 (human); Clone: 3G8; ECD; CE/IVD; 100 tests	46
B49217	CD15 (Human); Clone: 80H5; PC5; CE/IVD; 100 tests	45
B49218	CD15 (Human); Clone: 80H5; PB; CE/IVD; 50 tests	45
B49219	CD138 (Human); Clone: B-A38; APC; CE/IVD; 50 tests	92
B49220	CD127 (Human); Clone: R34.34; PE; CE/IVD; 100 tests	89
B49221	CD117 (Human); Clone: 104D2D1; PC7; CE/IVD; 100 tests	87
B49222	CD103 (Human); Clone: ZG5; FITC; CE/IVD; 100 tests	84
B49223	CD10 (Human); Clone: ALB1; APC-A700; CE/IVD; 50 tests	40
B49309	TCR V $\delta$ 1 (Human); Clone: R9.12; PC7; ASR; 0.5 mL	143
B49310	TCR V $\delta$ 2 (Human); Clone: IMMU 389; PB; ASR; 0.5 mL	144
B49311	Helios (Human); Clone: 22F6; PB; RUO; 50 tests	118
B51503	CytoFLEX Sheath Fluid; RUO; 10 L	242
B52102	MoFlo Astrios EQs; RUO	276
B52937	AQUIOS Flow-Count Fluorospheres; CE/IVD; 4 x 100 tests	208, 209
B52994	Cassette Type 7	287
B53000	CytoFLEX V5-B5-R3 System; 3 Lasers; RUO	265
B53001	CytoFLEX V4-B5-R3 System; 3 Lasers; RUO	265
B53002	CytoFLEX V5-B4-R3 System; 3 Lasers; RUO	265
B53003	CytoFLEX V4-B4-R3 System; 3 Lasers; RUO	265
B53004	CytoFLEX V5-B3-R3 System; 3 Lasers; RUO	265
B53005	CytoFLEX V2-B5-R3 System; 3 Lasers; RUO	265

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B53006	CytoFLEX V3-B4-R3 System; 3 Lasers; RUO	265
B53007	CytoFLEX V3-B3-R3 System; 3 Lasers; RUO	265
B53008	CytoFLEX V2-B4-R3 System; 3 Lasers; RUO	265
B53009	CytoFLEX V2-B3-R3 System; 3 Lasers; RUO	265
B53010	CytoFLEX V2-B3-R2 System; 3 Lasers; RUO	265
B53011	CytoFLEX V0-B3-R3 System; 2 Lasers; RUO	265
B53012	CytoFLEX V3-B3-R0 System; 2 Lasers; RUO	265
B53013	CytoFLEX V0-B4-R2 System; 2 Lasers; RUO	265
B53014	CytoFLEX V0-B3-R2 System; 2 Lasers; RUO	265
B53015	CytoFLEX V0-B3-R1 System; 2 Lasers; RUO	265
B53016	CytoFLEX V0-B2-R2 System; 2 Lasers; RUO	265
B53017	CytoFLEX V2-B2-R0 System; 2 Lasers; RUO	265
B53018	CytoFLEX V0-B5-R0 System; 1 Laser; RUO	265
B53019	CytoFLEX V0-B4-R0 System; 1 Laser; RUO	265
B53022	Cassette Type 8	287
B53031	Cassette Type 9	287
B53037	CytoFLEX V5-B5-R0 System; 2 Lasers; RUO	265
B53230	CytoFLEX Daily QC Fluorospheres; RUO; 1 vial	223
B53309	DURAClone IM Phenotyping BASIC Tube; RUO; 25 tests	172
B53318	DURAClone IM B cells Tube; RUO; 25 tests	173
B53328	DURAClone IM T cell subsets Tube; RUO; 25 tests	174
B53340	DURAClone IM TCRs Tube; RUO; 25 tests	176
B53346	DURAClone IM Treg Tube; RUO; 25 tests	177
B53351	DURAClone IM Dendritic cell Tube; RUO; 25 tests	175
B53808	Cassette Type 10	287
B55031	CytoFLEX Startup Reagents; 1 pack	243
B55384	CD39 (Human); Clone: BA54; PE; ASR; 1 mL	60
B55385	CD39 (Human); Clone: BA54; PC5.5; ASR; 0.5 mL	60
B55386	CD5 (Human); Clone: CLB-T1/I; APC; ASR; 0.5 mL	36
B55387	CD5 (Human); Clone: CLB-T1/I; ECD; ASR; 0.5 mL	36
B57658	ZAP-70 (Human); Clone: SBZAP; PE; RUO; 50 tests	147
B63213	Plate Loader Sample Probe	288
B63215	CytoFLEX Plate Loader	288
B66807	ClearLab T1; IVD; 25 tests	196
B66808	ClearLab T2; IVD; 25 tests	197
B66809	ClearLab B1; IVD; 25 tests	195
B66810	ClearLab B2; IVD; 25 tests	196
B66812	ClearLab M; IVD; 25 tests	196
B68124	CD200 (Human); Clone: OX-104; PE; ASR; 1 mL	102
B68132	CD196 (Human); Clone: B-R35; PC7; ASR; 0.5 mL	101
B68136	ROR1 (Human); Clone: 2A2; PE; ASR; 1 mL	129

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B68140	CD59 (Human); Clone: MEM-43; PE; ASR; 1 mL	72
B68144	CD183 (Human); Clone: G025H7 ; AF488; ASR; 0.5 mL	100
B68148	CD180 (Human); Clone: MHR73-11; PE; ASR; 1 mL	100
B68152	CD52 (Human); Clone: HI186; PC7; ASR; 0.5 mL	68
B68156	CD305 (Human); Clone: NKTA255; PE; ASR; 1 mL	110
B68160	CD157 (Human); Clone: SY/11B5; PE; ASR; 1 mL	95
B68176	CD73 (Human); Clone: AD-2; PE; ASR; 1 mL	77
B68180	Ki-67 (Human); Clone: Ki-67; AF488; ASR; 0.5 mL	125
B69476	AQUIOS Designer Software 2.0; CE/IVD; 1 unit	209, 280, 282
B71089	585/30 nm Bandpass Filter	288
B71092	710/50 nm Bandpass Filter	288
B71294	Sample needle	288
B72627	561/6 nm Bandpass Filter	288
B73613	DxFLEX Sheath Fluid; IVD; 10 L	242, 270
B74073	ClearLab LS (Lymphoid Screen); CE/IVD; 25 tests	199
B74074	ClearLab Compensation Kit; IVD; 5 tests	200, 204
B75408	CytoFLEX S V4-B2-Y4-R3 System; 4 Lasers; RUO	269
B75811	CytoFLEX S V0-B2-Y4-R3 System; 3 Lasers; RUO	269
B75812	CytoFLEX S V0-B2-Y4-R0 System; 2 Lasers; RUO	269
B76117	595/20 nm Bandpass Filter	288
B76121	585/15 nm Bandpass Filter	288
B76124	515/20 nm Bandpass Filter	288
B76128	510/20 nm Bandpass Filter	288
B76139	550/30 nm Bandpass Filter	288
B76262	CD137 (Human); Clone: 4B4-1; ECD; ASR; 0.5 mL	91
B76266	IL-17A (Human); Clone: BL168; PB; RUO; 50 tests	124
B76279	CD8 (Human); Clone: B9.11; AF700; ASR; 0.5 mL	38
B76283	CD19 (Human); Clone: J3-119; AF700; ASR; 0.5 mL	48
B76287	CD20 (Human); Clone: B9E9; AF700; ASR; 0.5 mL	49
B76295	TNFA (Human); Clone: IPM2; AF700; ASR; 0.5 mL	147
B76299	CD105 (Human); Clone: TEA3/17.1.1; PE; ASR; 1 mL	85
B78217	740/35 nm Bandpass Filter	288
B78220	819/44 nm Bandpass Filter	288
B78244	675/30 nm Bandpass Filter	288
B78557	CytoFLEX S N2-V3-B5-R3 System; 4 Lasers; RUO	268
B78558	CytoFLEX S N2-V0-B4-R0 System; 2 Lasers; RUO	268
B78559	CytoFLEX S N2-V0-B5-R3 System; 3 Lasers; RUO	268
B78560	CytoFLEX S N2-V4-B2-Y4 System; 4 Lasers; RUO	269
B78561	CytoFLEX S N2-V0-B2-Y4 System; 3 Lasers; RUO	269
B80220	Navios EX offline acquisition software; Win 7 Workstation	273
B80393	DURAClone RE CLB Tube; RUO; 25 tests	185

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B80394	DURAClone RE PC Tube; RUO; 25 tests	187
B83535	Navios EX; 10 colors, 3 lasers (5+3+2 configuration); IVD	273
B86549	Waste/Sheath Tanks Wiring Harness; 10 L	288
B86672	Navios EX; 8 colors, 2 lasers (5+3 configuration); IVD	273
B86735	Navios EX; 6 colors, 2 lasers (5+1 configuration); IVD	273
B87589	Pipetting head, 1200 µL; 5 µL - 1,200 µL; 1 unit	248
B87590	Pipetting head, 300 µL; 1 µL - 300 µL; 1 unit	248
B87591	Pipetting head, 60 µL; 0.5 µL - 60 µL; 1 unit	248
B88526	7-AAD Viability Dye; RUO; 200 tests	237
B88649	DURAClone IF T Activation Tube; RUO; 25 tests	180
B88651	DURAClone IM Granulocytes Tube; RUO; 25 tests	178
B90002	ClearLab Control Cells Normal; IVD; 25 tests	203
B90003	ClearLab Control Cells Abnormal; IVD; 25 tests	203
B90294	510/20 nm Bandpass Filter with Signal Attenuation (OD1)	288
B90297	610/20 nm Bandpass Filter with Signal Attenuation (OD1)	288
B90300	450/45 nm Bandpass Filter with Signal Attenuation (OD1)	288
B90303	525/40 nm Bandpass Filter with Signal Attenuation (OD1)	288
B90396	CD45RA (Human); Clone: 2H4LDH11LDB9; AF700; ASR; 0.5 mL	65
B90400	TCR Vα7.2 (Human); Clone: 3C10; FITC; RUO; 50 tests	130
B90408	CD326 (Human); Clone: VU1D9; APC; ASR; 0.5 mL	111
B90416	λ Chain; PC7; ASR; 0.5 mL	125
B90420	κ Chain; APC; ASR; 0.5 mL	124
B90428	IL-17A; Clone: BL168; AF700; RUO; 50 tests	124
B90432	FoxP3 (Human); Clone: 259D; PB; ASR; 0.5 mL	117
B90436	IL-2; Clone: IL2.39.1; FITC; ASR; 1 mL	123
B90441	IL-4 (Human); Clone: MP4-25D2; PC7; ASR; 0.5 mL	123
B90465	CD94 (Human); Clone: HP-3B1; PB; ASR; 0.5 mL	83
B91237	Navios EX offline acquisition software; New User, IVD	273
B91238	Software; 1 User, Software v2.0.; IVD	273
B91239	Navios EX offline acquisition software; 5 User, Software v2.0; IVD	273
B91240	Navios EX offline acquisition software; tetra Software; IVD	273
B92391	CD14 (Human); Clone: RM052; ECD; CE/IVD; 100 tests	44
B92396	CD38 (Human); Clone: LS198-4-3; PB; CE/IVD; 50 tests	59
B92400	CD10 (Human); Clone: ALB1; APC; CE/IVD; 100 tests	40
B92404	CD203c (Human); Clone: 97A6; PE; CE/IVD; 100 tests	103
B92408	CD33 (Human); Clone: D3HL60.251; PC7; CE/IVD; 100 tests	56
B92413	CD5 (Human); Clone: BL1a; APC-A750; CE/IVD; 50 tests	36
B92417	CD34 (Human); Clone: 581; APC-A700; CE/IVD; 50 tests	57
B92421	CD14 (Human); Clone: RM052; APC-A750; CE/IVD; 50 tests	44
B92425	CD24 (Human); Clone: ALB9; PE; CE/IVD; 100 tests	51
B92429	NG2 (Human); Clone: 7.1; PE; CE/IVD; 100 tests	127

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B92433	CD20 (Human); Clone: B9E9; ECD; CE/IVD; 100 tests	49
B92438	HLA-DR (Human); Clone: Immu-357; ECD; CE/IVD; 100 tests	120
B92442	CD105 (Human); Clone: TEA3/17.1.1; PE; CE/IVD; 50 tests	85
B92446	CD56 (Human); Clone: N901; APC-A700; CE/IVD; 50 tests	70
B92450	CD117 (Human); Clone: 104D2D1; APC-A750; CE/IVD; 50 tests	87
B92454	CD25 (Human); Clone: BL49.9; APC-A700; CE/IVD; 50 tests	52
B92458	CD25 (Human); Clone: BL49.9; PC5.5; CE/IVD; 50 tests	52
B92463	CD34 (Human); Clone: 581; APC-A750; CE/IVD; 50 tests	57
B92467	CD63 (Human); Clone: CLB-Gran/12; FITC; CE/IVD; 100 tests	74
B92472	CD200 (Human); Clone: OX-104; PC7; CE/IVD; 50 tests	102
B96618	CytoFLEX S N0-V4-B2-Y4 System; 2 Lasers; RUO	269
B96619	CytoFLEX S N0-V4-B2-Y4 System; 3 Lasers; RUO	269
B96620	CytoFLEX S V4-B2-Y4-R0 System; 3 Lasers; RUO	269
B96621	CytoFLEX S V2-B2-Y3-R2 System; 4 Lasers; RUO	269
B96622	CytoFLEX V0-B5-R3 System; 2 Lasers; RUO	265
B96656	AQUIOS Flow-Count Fluorospheres; RUO; 100 tests	209
B96750	CD10 (Human); Clone: ALB1; PC7; CE/IVD; 100 tests	40
B96754	CD117 (Human); Clone: 104D2D1; PC5.5; CE/IVD; 50 tests	87
B96758	HLA-DR (Human); Clone: Immu-357; FITC; CE/IVD; 100 tests	120
B96763	CD11c (Human); Clone: BU15; PC7; CE/IVD; 100 tests	42
B96769	CD64 (Human); Clone: 22; APC-A750; CE/IVD; 50 tests	74
B96773	CD79b (Human); Clone: CB3-1; APC; CE/IVD; 50 tests	78
B96777	CD22 (Human); Clone: SJ10.1H11; APC; CE/IVD; 50 tests	50
B96782	FMC7 (Human); Clone: FMC7; PB; CE/IVD; 50 tests	116, 49
B96786	CD138 (Human); Clone: B-A38; PC5.5; CE/IVD; 50 tests	92
B96790	CD27 (Human); Clone: 1A4CD27; PE; CE/IVD; 100 tests	53
B96805	ClearLab 10C B Cell Tube; IVD; 25 tests	201
B96806	ClearLab 10C T Cell Tube; IVD; 25 tests	202
B96807	ClearLab 10C M1 Cell Tube; IVD; 25 tests	202
B96808	ClearLab 10C M2 Cell Tube; IVD; 25 tests	203
B99143	763/43 nm Bandpass Filter	288
B99144	840/20 nm Bandpass Filter	288
B99145	885/40 nm Bandpass Filter	288
B99146	405/30 nm Bandpass Filter	288
B99514	Avanti J-15R; 200-230 V, 50 Hz	256
B99515	Avanti J-15R; 200-230 V, 50 Hz; IVD	256
B99516	Avanti J-15R; 120 V, 60 Hz	256
B99517	Avanti J-15R; 120 V, 60 Hz; IVD	256
B99883	ClearLab Compensation Beads; IVD; 100 tests	204
		
C00162	DURAClone IM Count Tube; RUO; 25 tests	179



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C00163	DURAClone RE ALB Tube; RUO; 25 tests	184
C00445	CytoFLEX LX N3-V5-B3-Y5-R3-I2 System; 6 Lasers; RUO	266
C00446	CytoFLEX LX N3-V5-B3-Y5-R3-I2 System; 5 Lasers; RUO	266
C01158	CytoFLEX S V0-B4-R0-I2 System; 2 Lasers; RUO	269
C01159	CytoFLEX S V0-B4-R3-I2 System; 3 Lasers; RUO	269
C01160	CytoFLEX S V4-B4-R0-I2 System; 3 Lasers; RUO	269
C01161	CytoFLEX S V4-B4-R3-I2 System; 4 Lasers; RUO	269
C01994	Avanti J-15; 100-120/200-230 V, 50/60 Hz; IVD	256
C01995	Avanti J-15; 100-120/200-230 V, 50/60 Hz	256
C02059	AQUIOS VersaFix Lysing Reagent; RUO; 50 tests	209, 230, 281
C02396	CytoFLEX Plate Loader	288
C02943	Preventive Maintenance Kit	288
C02944	CytoFLEX V2-B2-R2 System; 2 Lasers; RUO	265
C02945	CytoFLEX V2-B4-R2 System; 3 Lasers; RUO	265
C02946	CytoFLEX V2-B2-R2 System; 3 Lasers; RUO	265
C02947	CytoFLEX S V0-B2-Y4-R3 System; 3 Lasers; RUO	269
C02948	CytoFLEX S V4-B2-Y0-R3 System; 3 Lasers; RUO	269
C02949	CytoFLEX S N0-V0-B2-Y2 System; 2 Lasers; RUO	269
C04666	DURAClone IF T Helper Cell; RUO; 25 tests	181
C04893	AQUIOS Designer Software 2.0; -, 1 unit	209, 280, 282
C06019	Single Reagent Kit; RUO	262
C06147	CytoFLEX Daily IR QC Fluorospheres; RUO	223
C09145	50% single-use viability control beads; RUO	262
C09147	0.5M single-use concentration control beads; RUO	262
C09148	2.0M single-use concentration control beads; RUO	262
C09149	4.0M single-use concentration control beads; RUO	262
C09150	10.0M single-use concentration control beads; RUO	262
C10574	Kaluza C Analysis Software Perpetual, 1-User (Single); IVD	285
C10575	Kaluza C Analysis Software 1 Year, 1-User (Single); IVD	285
C10576	Kaluza C Analysis Software, 10-User (Network); IVD	285
C10577	Kaluza C Analysis Software, 5-User (Network); IVD	285
C10578	Kaluza C Analysis Software 1 Year, 1-User (Single); IVD	285
C10579	Kaluza C Analysis Software Perpetual, 1-User (Single); IVD	285
C10580	Kaluza C Analysis Software, 10-User (Network); IVD	285
C10581	Kaluza C Analysis Software Perpetual; IVD	285
C11101	Phorbol-Myristate-acetate (PMA) / Ionomycin / Brefeldin A; RUO	191
C11102	Phorbol-Myristate-acetate (PMA) / Ionomycin; RUO	192
C11183	CytoFLEX LX U3-V5-B3-Y0-R3-I0 System; 4 Lasers; RUO	266
C11184	CytoFLEX LX U3-V5-B3-Y0-R3-I0 System; 4 Lasers; RUO	266
C11185	CytoFLEX LX U3-V5-B3-Y5-R3-I0 System; 5 Lasers; RUO	266
C11186	CytoFLEX LX U3-V5-B3-Y5-R3-I2 System; 6 Lasers; RUO	266

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C14907	CytoFLEX Startup Reagents; 1 pack	243
C14908	CytoFLEX Startup Reagents - Infrared Systems	243
C14909	CytoFLEX Startup Reagents - Infrared Systems	243
C15189	λ Chain; PE; ASR; 2 mL	125
C15190	CD133; Clone: W6B3C1; APC; ASR; 0.5 mL	90
C15623	κ Chain; FITC; ASR; 2 mL	124
C19201	Vi-CELL BLU System; RUO	262
C21857	Lipopolysaccharide (LPS) and Brefeldin A; RUO; 25 tests	192
C21858	DURAClone IF Monocyte Activation Tube; RUO; 25 tests	183
C23009	CytoFLEX LX N0-V5-B3-Y5-R3-I0 System; 4 Lasers; RUO	266
C23406	DURAClone IF Basophil Activation Tube; RUO; 25 tests	182
C23407	Ca2+ Activation solution; RUO; 100 tests	183, 241
C23660	Start-up kit; RUO	262
C24841	96-well Microplate; RUO	262
C24842	96-well plate cover slip; RUO	262
C24843	Sample vial; RUO	262
C31546	Avanti J-15; 208-230 V, 60 Hz	256
C31547	Avanti J-15R; 208-230 V, 60 Hz; IVD	256
C34369	DURAClone SC Mesenchymal; RUO; 25 tests	188
C36614	405 Fixable Viability Dye; RUO; 200 tests	238
C36620	561 Fixable Viability Dye; RUO; 200 tests	238
C36624	638 Fixable Viability Dye; RUO; 200 tests	239
C36628	808 Fixable Viability Dye; RUO; 200 tests	239
C36774	WDM Beam Splitter; RUO; 1 unit	267
C38523	Cassette Type A	252, 287
C39283	DxFLEX Daily QC Fluorospheres; IVD	270
C39291	Quad pack reagent kit; x 4 kits; RUO	262
C44097	Plate 48 wells with barcode label	253, 287
C47383	Cytobank 1 year license; 5 User Premium license; RUO	283
C47384	Cytobank 1 year license; Premium license; RUO	283
C47385	Cytobank 1 year license; 5 User Premium license; RUO	283
C47386	Cytobank 1 year license; 10 User Enterprise license; RUO	283
C47387	Cytobank 1 year license; Additional User Enterprise license; RUO	283
C47388	Cytobank 1 year license; 10 User Enterprise license; RUO	283
C47389	Cytobank 2 year license; 5 User Premium license; RUO	283
C47390	Cytobank 1 year license; Additional User Enterprise license; RUO	283
C47391	Cytobank 2 year license; Premium license; RUO	283
C47392	Cytobank 2 year license; 5 User Premium license; RUO	283
C47393	Cytobank 2 year license; 10 User Enterprise license; RUO	283
C47394	Cytobank 2 year license; Additional User Enterprise license; RUO	283
C47395	Cytobank 2 year license; 10 User Enterprise license; RUO	283

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C47396	Cytobank 2 year license; Additional User Enterprise license; RUO	283
C47397	Cytobank 3 year license; 5 User Premium license; RUO	283
C47398	Cytobank 3 year license; Premium license; RUO	283
C47399	Cytobank 3 year license; 5 User Premium license; RUO	283
C47400	Cytobank 3 year license; 10 User Enterprise license; RUO	283
C47401	Cytobank 3 year license; Additional User Enterprise license; RUO	283
C47402	Cytobank 3 year license; 10 User Enterprise license; RUO	283
C47403	Cytobank 3 year license; Additional User Enterprise license; RUO	283
C49589	DURAClone SC Hematopoietic; RUO; 25 tests	189
C57784	EMnetik 24 Microparticle Processor; 1 unit	251
C58512	Pierceable Caps; Cyto-Stat Pierceable Caps	253, 287
C58854	Tubes 12 x 75mm (empty) with barcode label	253, 287
C59585	Conductive Tips 1025 µL; 5 racks/case	250, 287
C62703	Biomek NGenius System; 1 unit	250
C62705	Biomek Reaction Vessel; 30/box	250
C62706	Biomek Lid; 30/box	250
C62707	Biomek Bulk Reservoir; 20 mL/section	250
C62712	Conductive Tips 70 µL; 10 racks/case	250, 287
C63854	CD169-PE/HLA-DR-APC/CD64-PB; RUO; 200 tests	163, 215
C67717	Pierceable Caps; IOTest Pierceable Caps	253, 287
C68442	EMnetik PCR Cleanup Kit; 500 preps	241, 251
C68445	EMnetik Plasmid Purification Kit; 96 preps	242, 251
C68652	Consumables with Barcode Label; IOTest vials (empty) with barcode label	253, 287
C68661	Cassette Type E	252, 287
C68757	Lyse bottles (empty) with barcode label	253, 287
C69243	CD38 (Human); Clone: LS198-4-3; SNv428; ASR; 0.5 mL	59
C69244	CD19 (Human); Clone: J3-119; SNv428; ASR; 0.5 mL	48
C69245	CD25 (Human); Clone: B1.49.9; SNv428; ASR; 0.5 mL	52
C69246	CD22 (Human); Clone: SJ10.1H11; SNv428; RUO; 50 tests	50
C70665	Biomek Seal Plate; 20/Box	250, 287
C70672	1025 µL Tip Box; Empty; 10 racks/case	250, 287
C70673	70 µL Tip Box; Empty; 10 racks/case	250, 287
C71319	Cassette Type E labels	253, 287
C71883	CytoFLEX SRT V5-B2-Y5-R3; RUO	275
C71884	CytoFLEX SRT V5-B2-Y5-R0; RUO	275
C71886	CytoFLEX SRT V0-B2-Y5-R3; RUO	275
C71887	CytoFLEX SRT V5-B2-Y0-R0; RUO	275
C71889	CytoFLEX SRT V0-B2-Y0-R3; RUO	275

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C73900	κ Chain; CE/IVD	
C73901	λ Chain (Human); CE/IVD	
C73916	CD99; Clone: 3B2/TA8; APC; ASR; 0.5 mL	84
C73917	CD99; Clone: 3B2/TA8; ECD; ASR; 0.5 mL	84
C74033	CD366; Clone: F38-2E2; SNv428; RUO; 50 tests	114
C74034	CD223; Clone: 11C3C65; ECD; RUO; 50 tests	105
C75112	DURAClone RE CTC Tube; RUO; 15 tests	186
C75118	PerFix CTC; RUO; 15 tests	186, 233
C76556	SuperNova Staining Buffer; RUO; 100 tests	241
C76793	IL-4 (Human); Clone: MP4-25D2; ASR; 2 mL	123
C76795	CD3; Clone: UCHT1; SNv428; RUO; 50 tests	34
C76798	CD5; Clone: CLB-T1/1; SNv428; RUO; 50 tests	36
C76801	CD56; Clone: N901; SNv428; RUO; 50 tests	70
C76804	CD13 (Human); Clone: Immu103.44; RUO; 50 tests	43
C76807	CD10; Clone: ALB2; SNv428; RUO; 50 tests	40
C76810	CD34 (Human); Clone: 581; RUO; 50 tests	57
C76813	CD117; Clone: 104D2D1; SNv428; RUO; 50 tests	87
C76816	CD200; Clone: OX-104; SNv428; RUO; 50 tests	102
C76819	CD33; Clone: D3HL60.251; SNv428; RUO; 50 tests	56
C76822	HLA-DR (Human); Clone: Immu-357; RUO	120
C76825	CD27; Clone: 1A4CD27; RUO; 50 tests	53
C76829	TCR PAN γ/δ; Clone: IMMU510; RUO; 50 tests	130
C76832	CD23; Clone: 9P25; RUO; 50 tests	51
C78077	CD38; Clone: LS198-4-3; SNv605; RUO; 50 tests	59
C78079	CD20; Clone: B9E9; SNv605; ASR; 0.5 mL	49
C78081	CD25; Clone: B1.49.9; SNv605; ASR; 0.5 mL	52
C78083	CD200; Clone: OX-104; SNv786; ASR; 0.5 mL	102
C78085	CD103; Clone: 2G5; SNv786; ASR; 0.5 mL	84
C78087	HLA-DR; Clone: Immu-357; SNv786; RUO; 50 tests	120
C81740	CellMek SPS x/UPS (100-120V); IVD; 1 unit	252
C83751	CellMek SPS; CellMek SPS w/UPS (220-240V); IVD; 1 unit	252
C84703	CD20 (Human); Clone: B9E9; RUO; 50 tests	49
C84709	CD138; Clone: B-A38; RUO; 50 tests	92
C84712	CD71; Clone: YDJ1.2.2; RUO; 50 tests	77
C96081	DURAClone IM Innate Lymphoid Cells; RUO; 25 tests	171
<b>CY</b>		
CY30230	PuraFlow Sheath Fluid; RUO; 4 x 6 L	242

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Part #	Description	Page
<b>IM</b>		
IM0107	HLA-ABC (Human); Clone: B9.12.1; UNLB; RUO; 0.2 mg	119
IM0114	$\beta$ 2-microglobulin (Human); Clone: B1G6; UNLB; RUO; 0.2 mg	31
IM0117	CD9 (Human); Clone: ALB6; UNLB; RUO; 0.2 mg	39
IM0118	CD24 (Human); Clone: ALB9; UNLB; RUO; 0.2 mg	51
IM0145	CD41 (Human); Clone: P2; UNLB; RUO; 0.2 mg	61
IM0190	CD11b (Human); Clone: Bear1; UNLB; ASR; 0.2 mg	41
IM0195	CD35 (Human); Clone: J3D3; UNLB; RUO; 0.2 mg	58
IM0318	CD103 (Human); Clone: 2G5; UNLB; RUO; 0.2 mg	84
IM0398	CD4 (Human); Clone: 13B8.2; UNLB; ASR; 0.2 mg	35
IM0409	CD42b (Human); Clone: SZ2; UNLB; RUO; 0.2 mg	62
IM0416	HLA-DQ (Human); Clone: SPVL3; UNLB; RUO; 0.2 mg	119
IM0442U	CD2 (Human); Clone: 39C1.5; FITC; ASR; 2 mL	33
IM0443U	CD2 (Human); Clone: 39C1.5; PE; ASR; 2 mL	33
IM0448U	CD4 (Human); Clone: 13B8.2; FITC; ASR; 2 mL	35
IM0449U	CD4 (Human); Clone: 13B8.2; PE; ASR; 2 mL	35
IM0451U	CD8 (Human); Clone: B9.11; FITC; ASR; 2 mL	38
IM0452U	CD8 (Human); Clone: B9.11; PE; ASR; 2 mL	38
IM0458	CD37 (Human); Clone: BL14; PE; ASR; 2 mL	59
IM0463U	HLA-DR (Human); Clone: B8.12.2; FITC; ASR; 2 mL	120
IM0464U	HLA-DR (Human); Clone: B8.12.2; PE; ASR; 2 mL	120
IM0466U	CD57 (Human); Clone: NC1; FITC; ASR; 2 mL	71
IM0468U	CD5 (Human); Clone: BL1a; FITC; ASR; 2 mL	36
IM0469U	CD5 (Human); Clone: BL1a; PE; ASR; 2 mL	36
IM0471U	CD10 (Human); Clone: ALB2; FITC; ASR; 2 mL	40
IM0473U	CD21 (Human); Clone: BL13; FITC; ASR; 2 mL	50
IM0478U	CD25 (Human); Clone: B1.49.9; FITC; ASR; 2 mL	52
IM0479U	CD25 (Human); Clone: B1.49.9; PE; ASR; 2 mL	52
IM0483	CD71 (Human); Clone: YDJ1.2.2; FITC; CE/IVD; 100 tests	77
IM0483U	CD71 (Human); Clone: YDJ1.2.2; FITC; ASR; 2 mL	77
IM0529	CD23 (Human); Clone: 9P25; FITC; CE/IVD; 100 tests	51
IM0529U	CD23 (Human); Clone: 9P25; FITC; ASR; 2 mL	51
IM0530	CD11b (Human); Clone: Bear1; FITC; CE/IVD; 100 tests	41
IM0530U	CD11b (Human); Clone: Bear1; FITC; ASR; 2 mL	41
IM0531U	CD66b (Human); Clone: 80H3; FITC; ASR; 2 mL	75
IM0538	CD42a (Human); Clone: SZ1; UNLB; RUO; 0.2 mg	62
IM0540	CD61 (Human); Clone: SZ21; UNLB; RUO; 0.2 mg	72
IM0584U	CD45RA (Human); Clone: ALB11; FITC; ASR; 2 mL	65
IM0585U	CD7 (Human); Clone: 8H8.1; FITC; ASR; 2 mL	37
IM0639U	IgG1 (Mouse); Clone: 679.1Mc7; FITC; ASR; 2 mL	149
IM0643	CD14 (Human); Clone: RM052; UNLB; ASR; 0.2 mg	44

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Part #	Description	Page
IM0645U	CD14 (Human); Clone: RM052; FITC; ASR; 2 mL	44
IM0647	CD45 (Human); Clone: ALB12; FITC; ASR; 2 mL	64
IM0648U	CD42b (Human); Clone: SZ2; FITC; ASR; 2 mL	62
IM0649U	CD41 (Human); Clone: P2; FITC; ASR; 2 mL	61
IM0650U	CD14 (Human); Clone: RM052; PE; ASR; 2 mL	44
IM0670U	IgG1 (Mouse); Clone: 679.1Mc7; PE; ASR; 2 mL	149
IM0704	CD4 (Human); Clone: 13B8.2; Biotin; ASR; 0.2 mg	35
IM0717	CD49b (Human); Clone: Gi9; UNLB; RUO; 0.2 mg	67
IM0726U	CD54 (Human); Clone: 84H10; FITC; ASR; 2 mL	69
IM0747U	CD4-FITC/CD8-PE; RUO; 50 tests	164
IM0765	CD36 (Human); Clone: FA6.152; UNLB; RUO; 0.2 mg	58
IM0766U	CD36 (Human); Clone: FA6.152; FITC; ASR; 2 mL	58
IM0775U	CD38 (Human); Clone: T16; FITC; ASR; 2 mL	59
IM0778U	CD13 (Human); Clone: SJ1D1; FITC; ASR; 2 mL	43
IM0779U	CD22 (Human); Clone: SJ10.1H11; FITC; ASR; 2 mL	50
IM0782U	CD45 (Human); Clone: J33; FITC; ASR; 2 mL	64
IM0786	CD34 (Human); Clone: QBEnd10; UNLB; RUO; 0.2 mg	57
IM0791U	CD29 (Human); Clone: K20; FITC; ASR; 2 mL	54
IM0813	CD16 (Human); Clone: 3G8; UNLB; ASR; 0.2 mg	46
IM0814U	CD16 (Human); Clone: 3G8; FITC; ASR; 2 mL	46
IM0860U	CD11a (Human); Clone: 25.3; FITC; ASR; 2 mL	41
IM1135U	CD33 (Human); Clone: D3HL60.251; FITC; ASR; 2 mL	56
IM1165U	CD63 (Human); Clone: CLB-Gran/12; FITC; ASR; 2 mL	74
IM1179U	CD33 (Human); Clone: D3HL60.251; PE; ASR; 2 mL	56
IM1198	CD57-FITC/CD8-PE; RUO; 50 tests	165
IM1199U	HLA-DR-FITC/CD8-PE; RUO; 50 tests	166
IM1218U	CD58 (Human); Clone: AICD58; FITC; ASR; 2 mL	71
IM1219U	CD44 (Human); Clone: J.173; FITC; ASR; 2 mL	63
IM1231U	CD62L (Human); Clone: DREG56; FITC; ASR; 2 mL	73
IM1233	TCR V $\beta$ 8 (Human); Clone: 56C5.2; FITC; ASR; 1 mL	136
IM1234	TCR V $\beta$ 17 (Human); Clone: E17.5F3.15.13; FITC; ASR; 1 mL	140
IM1236U	CD28 (Human); Clone: CD28.2; FITC; ASR; 2 mL	54
IM1238U	CD16 (Human); Clone: 3G8; PE; ASR; 2 mL	46
IM1239U	CD54 (Human); Clone: 84H10; PE; ASR; 2 mL	69
IM1247U	CD45RO (Human); Clone: UCHL1; FITC; ASR; 2 mL	66
IM1250U	CD34 (Human); Clone: QBEnd10; PE; ASR; 2 mL	57
IM1268	IgM (Mouse); Clone: GC323; UNLB; RUO; 100 tests	150
IM1269U	IgM (Mouse); Clone: GC323; FITC; ASR; 2 mL	150
IM1280	CD3 (Human); Clone: UCHT1; UNLB; ASR; 2 mL	34
IM1281U	CD3 (Human); Clone: UCHT1; FITC; ASR; 2 mL	34
IM1282U	CD3 (Human); Clone: UCHT1; PE; ASR; 2 mL	34

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Part #	Description	Page
IM1284U	CD19 (Human); Clone: J3-119; FITC; ASR; 2 mL	48
IM1285U	CD19 (Human); Clone: J3-119; PE; ASR; 2 mL	48
IM1289U	CD2-FITC/CD19-PE; RUO; 50 tests	164
IM1295U	CD3-FITC/HLA-DR-PE; RUO; 50 tests	164
IM1300	HLA-DR-FITC/CD3-PE; RUO; 50 tests	165
IM1304	CD3 (Human); Clone: UCHT1; UNLB; ASR; 0.2 mg	34
IM1307U	CD45RO (Human); Clone: UCHL1; PE; ASR; 2 mL	66
IM1313	CD19 (Human); Clone: J3-119; UNLB; ASR; 0.2 mg	48
IM1330	TCR Vβ13.6 (Human); Clone: JU74.3; FITC; ASR; 1 mL	139
IM1346U	CD19-FITC/CD5-PE; RUO; 50 tests	165
IM1349	TCR PAN γ/δ (Human); Clone: IMMU510; UNLB; RUO; 0.1 mg	130
IM1360U	CD117 (Human); Clone: 95C3; PE; ASR; 2 mL	87
IM1364U	FMC7 (Human); Clone: FMC7; FITC; ASR; 1 mL	116, 49
IM1374	CD40 (Human); Clone: MAB89; UNLB; ASR; 0.2 mg	60
IM1376	CD28 (Human); Clone: CD28.2; UNLB; ASR; 0.2 mg	54
IM1379U	CD8-FITC/CD4-PE; RUO; 50 tests	165
IM1382	CD3-FITC/CD4-PE; RUO; 50 tests	170
IM1383	CD3-FITC/CD8-PE; RUO; 50 tests	170
IM1384	CD3-FITC/CD19-PE; RUO; 50 tests	170
IM1387	CD45-FITC/CD14-PE; RUO; 50 tests	170
IM1388	IgG1-FITC/IgG1-PE; RUO; 50 tests	170
IM1400	OptiLyse No-Wash Lysing Solutions; RUO; 250 tests	233
IM1404U	CD49d (Human); Clone: HP2/1; FITC; ASR; 2 mL	67
IM1416U	CD41 (Human); Clone: P2; PE; ASR; 2 mL	61
IM1417U	CD42b (Human); Clone: SZ2; PE; ASR; 2 mL	62
IM1418U	TCR PAN γ/δ (Human); Clone: IMMU510; PE; ASR; 1 mL	130
IM1420	CD34 (Human); Clone: Immul33; PE; RUO; 100 tests	57
IM1423U	CD15 (Human); Clone: 80H5; FITC; ASR; 2 mL	45
IM1425	CD49b (Human); Clone: Gi9; FITC; RUO; 100 tests	67
IM1427U	CD13 (Human); Clone: SJID1; PE; ASR; 2 mL	43
IM1428U	CD24 (Human); Clone: ALB9; PE; ASR; 2 mL	51
IM1429U	CD7 (Human); Clone: 8H8.1; PE; ASR; 2 mL	37
IM1430	CD58 (Human); Clone: AICD58; PE; ASR; 2 mL	71
IM1431U	CD31 (Human); Clone: 5.6E; FITC; ASR; 2 mL	55
IM1433U	CD11a (Human); Clone: 25.3; PE; ASR; 2 mL	41
IM1451	CD20 (Human); Clone: B9E9; PE; CE/IVD; 100 tests	49
IM1451U	CD20 (Human); Clone: B9E9; PE; ASR; 2 mL	49
IM1455U	CD20 (Human); Clone: B9E9; FITC; ASR; 2 mL	49
IM1459U	CD34 (Human); Clone: Q8End10 + Immul33 + Immul409; PE; ASR; 2 mL	57
IM1463	TCR Vγ9 (Human); Clone: IMMU 360; FITC; ASR; 1 mL	144
IM1464	TCR Vδ2 (Human); Clone: IMMU 389; FITC; ASR; 1 mL	144

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IM1482	TCR Vβ5.2 (Human); Clone: 36213; FITC; ASR; 1 mL	134
IM1483	TCR Vβ21.3 (Human); Clone: IG125; FITC; ASR; 1 mL	142
IM1484	TCR Vβ22 (Human); Clone: IMMU 546; FITC; ASR; 1 mL	142
IM1502	HLA-B27-FITC/HLA-B7-PE; RUO; 50 tests	165
IM1504	CD95 (Human); Clone: CH11; UNLB; RUO; 0.05 mg	83
IM1552	TCR Vβ5.1 (Human); Clone: IMMU 157; FITC; ASR; 1 mL	133
IM1554	TCR Vβ13.1 (Human); Clone: IMMU 222; FITC; ASR; 1 mL	138
IM1558	TCR Vβ14 (Human); Clone: CAS1.1.3; FITC; ASR; 1 mL	139
IM1560	TCR Vβ16 (Human); Clone: TAMAYA1.2; FITC; ASR; 1 mL	140
IM1562	TCR Vβ20 (Human); Clone: ELL1.4; FITC; ASR; 1 mL	141
IM1568U	CD18 (Human); Clone: 7E4; FITC; ASR; 2 mL	47
IM1570U	CD18 (Human); Clone: 7E4; PE; ASR; 2 mL	47
IM1571U	TCR PAN γ/δ (Human); Clone: IMMU510; FITC; ASR; 1 mL	130
IM1586	TCR Vβ11 (Human); Clone: C21; FITC; ASR; 1 mL	137
IM1587	TCR Vβ12 (Human); Clone: VER2.32.1; FITC; ASR; 1 mL	137
IM1589	TCR Vα24 (Human); Clone: C15; FITC; ASR; 1 mL	131
IM1604U	CD64 (Human); Clone: 22; FITC; ASR; 2 mL	74
IM1612	CD79b (Human); Clone: CB3-1; PE; CE/IVD; 100 tests	78
IM1612U	CD79b (Human); Clone: CB3-1; PE; ASR; 2 mL	78
IM1638U	HLA-DR (Human); Clone: Immul-357; FITC; ASR; 2 mL	120
IM1639	HLA-DR (Human); Clone: Immul-357; PE; CE/IVD; 100 tests	120
IM1639U	HLA-DR (Human); Clone: Immul-357; PE; ASR; 2 mL	120
IM1650	CD4-FITC/CD8-PE/CD3-PC5; RUO; 50 tests	169
IM1651	CD3-FITC/CD4-PE/CD45-PC5; RUO; 50 tests	169
IM1654U	CD65 (Human); Clone: 88H7; FITC; ASR; 2 mL	75
IM1670	CD3-FITC/CD8-PE/CD45-PC5; RUO; 50 tests	169
IM1671	CD3-FITC/CD19-PE/CD45-PC5; RUO; 50 tests	169
IM1672	IgG1-FITC/IgG1-PE/IgG1-PC5; RUO; 50 tests	170
IM1673	IgG1-FITC/IgG1-PE/CD45-PC5; RUO; 50 tests	170
IM1739	CD95 (Human); Clone: UB2; PE; RUO; 50 tests	83
IM1755U	CD9 (Human); Clone: ALB6; FITC; ASR; 2 mL	39
IM1756U	CD41 (Human); Clone: SZ22; FITC; ASR; 2 mL	61
IM1757U	CD42a (Human); Clone: SZ1; FITC; ASR; 2 mL	62
IM1758	CD61 (Human); Clone: SZ21; FITC; CE/IVD; 100 tests	72
IM1758U	CD61 (Human); Clone: SZ21; FITC; ASR; 2 mL	72
IM1759U	CD62P (Human); Clone: CLB-Thromb/6; PE; ASR; 2 mL	73
IM1760	CD11c (Human); Clone: BU15; PE; CE/IVD; 100 tests	42
IM1760U	CD11c (Human); Clone: BU15; PE; ASR; 2 mL	42
IM1761	TCR Vδ1 (Human); Clone: R9.12; UNLB; RUO; 0.1 mg	143
IM1832U	CD38 (Human); Clone: T16; PE; ASR; 2 mL	59
IM1833	CD45 (Human); Clone: Immul9.2; PE; RUO; 100 tests	64

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Part #	Description	Page
IM1834U	CD45RA (Human); Clone: ALB11; PE; ASR; 2 mL	65
IM1835	CD22 (Human); Clone: SJ10.1H11; PE; CE/IVD; 100 tests	50
IM1835U	CD22 (Human); Clone: SJ10.1H11; PE; ASR; 2 mL	50
IM1836	CD35 (Human); Clone: J3D3; FITC; RUO; 100 tests	58
IM1837U	CD48 (Human); Clone: J4.57; FITC; ASR; 2 mL	66
IM1838U	HLA-ABC (Human); Clone: B9.12.1; FITC; ASR; 2 mL	119
IM1839U	CD90 (Human); Clone: F15-42-1-5; FITC; ASR; 2 mL	82
IM1840U	CD90 (Human); Clone: F15-42-1-5; PE; ASR; 2 mL	82
IM1844	CD56 (Human); Clone: C218; UNLB; RUO; 0.2 mg	70
IM1846	CD158b1/b2.j (Human); Clone: GL183; UNLB; RUO; 0.2 mg	96
IM1853U	CD80 (Human); Clone: MAB104; FITC; ASR; 2 mL	79
IM1854U	CD49e (Human); Clone: SAM1; FITC; ASR; 2 mL	68
IM1856U	CD103 (Human); Clone: 2G5; FITC; ASR; 2 mL	84
IM1870	CD34 (Human); Clone: 581; FITC; CE/IVD; 100 tests	57
IM1870U	CD34 (Human); Clone: 581; FITC; ASR; 2 mL	57
IM1871U	CD34 (Human); Clone: 581; PE; ASR; 2 mL	57
IM1874	Myeloperoxidase (Human); Clone: CLB-MPO-1; FITC; CE/IVD; 100 tests	126
IM1874U	Myeloperoxidase (Human); Clone: CLB-MPO-1; FITC; ASR; 2 mL	126
IM1914U	CD63 (Human); Clone: CLB-Gran/12; PE; ASR; 2 mL	74
IM1915U	CD10 (Human); Clone: ALB1; PE; ASR; 2 mL	40
IM1935	CD32 (Human); Clone: ZE1; PE; ASR; 2 mL	56
IM1936U	CD40 (Human); Clone: MAB89; PE; ASR; 2 mL	60
IM1942U	CD1a (Human); Clone: BL6; PE; ASR; 2 mL	32
IM1943U	CD69 (Human); Clone: TP1.55.3; PE; ASR; 2 mL	76
IM1954U	CD15 (Human); Clone: 80H5; PE; ASR; 2 mL	45
IM1976U	CD80 (Human); Clone: MAB104; PE; ASR; 2 mL	79
IM1977	CD116 (Human); Clone: SCO6; PE; RUO; 100 tests	87
IM1979	CD126 (Human); Clone: M91; PE; ASR; 2 mL	89
IM1980U	CD127 (Human); Clone: R34.34; PE; ASR; 2 mL	89
IM2001U	CD71 (Human); Clone: YDJ1.2.2; PE; ASR; 2 mL	77
IM2002	TCR Vβ5.3 (Human); Clone: 3D11; PE; ASR; 1 mL	134
IM2003	TCR Vβ9 (Human); Clone: FIN9; PE; ASR; 1 mL	136
IM2004	TCR Vβ23 (Human); Clone: AF23; PE; ASR; 1 mL	143
IM2014	CD8β (Human); Clone: 2ST8.5H7; UNLB; RUO; 0.2 mg	39
IM2033U	CD30 (Human); Clone: HRS4; PE; ASR; 2 mL	55
IM2039U	CD66c (Human); Clone: KOR-SA3544; FITC; ASR; 1 mL	76
IM2047	TCR Vβ14 (Human); Clone: CAS1.1.3; PE; ASR; 1 mL	139
IM2048	TCR Vβ17 (Human); Clone: E17.5F3.15.13; PE; ASR; 1 mL	140
IM2049	TCR Vβ18 (Human); Clone: BA62.6; PE; ASR; 1 mL	141
IM2051	TCR Vβ22 (Human); Clone: IMMU 546; PE; ASR; 1 mL	142
IM2070	CD152 (Human); Clone: BNI3; UNLB; RUO; 0.2 mg	94

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IM2071U	CD28 (Human); Clone: CD28.2; PE; ASR; 2 mL	54
IM2073U	CD56 (Human); Clone: N901; PE; ASR; 2 mL	70
IM2076	CD3-FITC/CD(16+56)-PE; RUO; 50 tests	164
IM2078U	CD45 (Human); Clone: J33; PE; ASR; 2 mL	64
IM2088U	AP02.7 (Human); Clone: 2.7A6A3; PE; ASR; 2 mL	31
IM2211U	CD235a (Human); Clone: 11E4B-7-6; PE; ASR; 2 mL	106
IM2212U	CD235a (Human); Clone: 11E4B-7-6; FITC; ASR; 2 mL	106
IM2213	TCR Vβ2 (Human); Clone: MPB2D5; PE; ASR; 1 mL	132
IM2214U	CD62L (Human); Clone: DREG56; PE; ASR; 2 mL	73
IM2216U	CD154 (Human); Clone: TRAP-1; PE; ASR; 2 mL	94
IM2217U	CD8β (Human); Clone: 2ST8.5H7; PE; ASR; 2 mL	39
IM2218U	CD83 (Human); Clone: HB15a; PE; ASR; 2 mL	80
IM2221	CD79a (Human); Clone: HM47; PE; CE/IVD; 100 tests	78
IM2221U	CD79a (Human); Clone: HM47; PE; ASR; 2 mL	78
IM2234U	CD135 (Human); Clone: SF1.340; PE; ASR; 2 mL	91
IM2276	CD94 (Human); Clone: HP-3B1; PE; RUO; 100 tests	83
IM2278U	CD158b1/b2.j (Human); Clone: GL183; PE; ASR; 1 mL	96
IM2279U	CD36-FITC/CD235a-PE; RUO; 50 tests	165
IM2280U	CD45-FITC/CD235a-PE; RUO; 50 tests	165
IM2282	CD152 (Human); Clone: BNI3; PE; RUO; 100 tests	94
IM2283	TCR Vα24 (Human); Clone: C15; PE; ASR; 1 mL	131
IM2285	TCR Vβ5.1 (Human); Clone: IMMU 157; PE; ASR; 1 mL	133
IM2286	TCR Vβ5.2 (Human); Clone: 36213; PE; ASR; 1 mL	134
IM2287	TCR Vβ7.1 (Human); Clone: ZOE; PE; ASR; 1 mL	135
IM2289	TCR Vβ8 (Human); Clone: 56C5.2; PE; ASR; 1 mL	136
IM2290	TCR Vβ11 (Human); Clone: C21; PE; ASR; 1 mL	137
IM2291	TCR Vβ12 (Human); Clone: VER2.32.1; PE; ASR; 1 mL	137
IM2292	TCR Vβ13.1 (Human); Clone: IMMU 222; PE; ASR; 1 mL	138
IM2295	TCR Vβ20 (Human); Clone: ELL1.4; PE; ASR; 1 mL	141
IM2353U	CD16b (Human); Clone: 1D3; FITC; ASR; 2 mL	47
IM2355	TCR Vβ1 (Human); Clone: BL37.2; PE; ASR; 1 mL	131
IM2356U	Cytokeratin (Human); Clone: J1B3; FITC; ASR; 2 mL	115
IM2357U	CD66c (Human); Clone: KOR-SA3544; PE; ASR; 1 mL	76
IM2370U	CD243 (Human); Clone: UIC2; PE; ASR; 2 mL	106
IM2371U	CD38 (Human); Clone: LS198-4-3; PE; ASR; 2 mL	59
IM2372	TCR Vβ3 (Human); Clone: CH92; FITC; ASR; 1 mL	132
IM2375	Annexin A5-FITC Kit (20 tests); FITC; RUO; 20 tests	212
IM2388	IntraPrep Permeabilization Reagent; RUO; 50 tests	231
IM2389	IntraPrep Permeabilization Reagent; RUO; 150 tests	231
IM2406	TCR Vβ1 (Human); Clone: BL37.2; FITC; ASR; 1 mL	131
IM2407	TCR Vβ2 (Human); Clone: MPB2D5; FITC; ASR; 1 mL	132

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Part #	Description	Page
IM2408	TCR Vβ7.1 (Human); Clone: ZOE; FITC; ASR; 1 mL	135
IM2409	CD31 (Human); Clone: IF11; PE; RUO; 100 tests	55
IM2410U	CD83 (Human); Clone: HB15a; FITC; ASR; 2 mL	80
IM2467	CD3 (Human); Clone: UCHT1; APC; CE/IVD; 100 tests	34
IM2467U	CD3 (Human); Clone: UCHT1; APC; ASR; 1 mL	34
IM2468	CD4 (Human); Clone: 13B8.2; APC; CE/IVD; 100 tests	35
IM2468U	CD4 (Human); Clone: 13B8.2; APC; ASR; 1 mL	35
IM2469	CD8 (Human); Clone: B9.11; APC; CE/IVD; 100 tests	38
IM2469U	CD8 (Human); Clone: B9.11; APC; ASR; 1 mL	38
IM2470	CD19 (Human); Clone: J3-119; APC; CE/IVD; 100 tests	48
IM2470U	CD19 (Human); Clone: J3-119; APC; ASR; 1 mL	48
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The Technical Data are published information about a clone functional or technical applications. They are not systematically tested in our laboratories and for each application, you must select the appropriate format of the product. Please refer to the related package insert for specific information and/or references on intended use or limitations on the use of the products. Each abbreviation indicate technical data that may be appropriate or inappropriate uses of a product (see table below).

**APPROPRIATE USES**

<b>A</b>	Activating
<b>B</b>	Blocking
<b>C</b>	Flow Cytometry
<b>Ci</b>	Intracytoplasmic Staining
<b>E</b>	Elisa

**APPROPRIATE USES**

<b>F</b>	Frozen Tissue Sections
<b>I</b>	Immunoprecipitation
<b>P</b>	Paraffin-embedded Tissue Sections
<b>Ph</b>	Heat Treated Paraffin-embedded Tissue
<b>W</b>	Western Blot

**INAPPROPRIATE USES**

<b>A</b>	Non-activating
<b>B</b>	Non-blocking
<b>I</b>	Inappropriate for Immunoprecipitation
<b>P</b>	Inappropriate for Paraffin-embedded Tissue Sections
<b>W</b>	Inappropriate for Western Blot

Most of the Beckman Coulter Monoclonal Antibodies to human CD antigens have been clustered and studied during at least one of the International Workshops on Human Leucocyte Differentiation Antigens (HLDA). The red number references the HLDA workshop at which an antibody was clustered.

- |                                                                                               |                                                                                            |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1 HLDA 1: Leucocyte Typing - Bernard, A., et al. Eds., Springer-Verlag (1984)                 | 6 HLDA 6 Leucocyte Typing VI - Kishimoto, T., et al. Eds., Garland Publishing, Inc. (1997) |
| 2 HLDA 2: Leucocyte Typing II - Reinherz, E.L., et al. Eds., Springer-Verlag (1986)           | 7 HLDA 7 Leucocyte Typing VII - Mason, D., et al. Eds., Oxford University Press (2002)     |
| 3 HLDA 3: Leucocyte Typing III - McMichael, A.J., et al. Eds., Oxford University Press (1987) | 8 HLDA 8 www.hlda8.org                                                                     |
| 4 HLDA 4: Leucocyte Typing IV - KnappW., et al. Eds., Oxford University Press (1989)          | 9 HLDA 9 www.hcdm.org                                                                      |
| 5 HLDA 5 Leucocyte Typing V - Schlossman, S.F., et al. Eds., Oxford University Press (1995)   | 10 HLDA 10 www.hcdm.org                                                                    |

Leukocyte and Stromal Cell Molecules, The CD Markers, Zola, H., et al Eds. Wiley -Liss (2007)

When known, the cross reactivities with other species than human (primates and non-primates) are indicated below the technical description.

Clone Name	Specificity	Technical Data	Page
<b>1-2</b>			
1A4CD27	CD27	<b>5</b> C F I B	51, 53
1A4CD27 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
1D3	CD16b	<b>5</b> C I F	45
1F11	CD31	<b>5</b> C I	53
1G11	CD106	<b>5</b> C I B F	82
It does not cross reacts with: Cynomolgus Monkey.			
1HT44H3	CD25	<b>2</b> I C	50
1HT44H3 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.			
2.7A6A3	AP02.7	C W E Ci	29
2A2	ROR1	C	125
2E1	CD32	<b>3</b> C I F E	53
2E1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. It does not cross reacts with: Squirrel Monkey. 2E1 cross reacts with: Bovine, Ovine, Equine, Mink. It does not cross reacts with: Caprine, Porcine, Feline, Llama, Rabbit, Chicken, Trout, Carp.			
2G5	CD103	<b>5</b> C I	81
2G5 cross reacts with: Indian Rhesus, Sooty Mangabey.			
2G9A10F5	TIA-1	<b>5</b> C	142
2H2D9	TCR $\zeta$	C W I F	141
2H46D3B	CD6	<b>2</b> C	35
2H4LDH11LDB9	CD45RA	<b>3</b> C F I B	63
2ST8.5H7	CD8 $\beta$	<b>5</b> C I	37

Clone Name	Specificity	Technical Data	Page
<b>3-4</b>			
3.29B1.10	CD206	B C F	100
3A1E-12H7	CD7	<b>1</b> C F I	35
3A6	CD166	<b>6</b> C	96
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. It does not cross reacts with: Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
3B2/TA8	CD99	<b>6</b>	
3C10	TCR V $\alpha$ 7.2	C	126
3D11	TCR V $\beta$ 5.3	C	130
3G8	CD16	<b>4</b> C F B I A E	44
3G8 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey. 3G8 cross reacts with: Equine, Canine. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Feline, Mink, Llama, Rabbit, Guinea Pig.			
4B4-1	CD137	<b>6</b> C	88
4B4LDC9LDH8	CD29	<b>3</b> C A B I F P	52
4B4LDC9LDH8 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Squirrel Monkey.			
4D9	IL-4	C Ci	119
4EL-1C7	CD26	<b>2</b> C I B	50
<b>5-6</b>			
5.6E	CD31	<b>4</b> C W I F	53
<b>7-8-9</b>			
7.1	7.1 (NG2 antigen)	I C F W	123



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# Clones

Clone Name	Specificity	Technical Data	Page
7E4	CD18	<b>6</b> B I C	45
7E4 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon. 7E4 cross reacts with: Bovine, Ovine, Porcine, Equine, Canine, Feline, Mink, Llama. It does not cross reacts with: Caprine, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
8A3	CD109	C	83
8F9	CD370	C	111
8H8.1	CD7	<b>2</b> C F I	35
8H8.1 cross reacts with: Equine. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Chicken, Trout, Carp.			
9-49	HLA-DR, DP, DQ	C	116
9-49 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Squirrel Monkey.			
9F5	CD123	<b>6</b> C	85
9P25	CD23	<b>6</b> C B I	49, 51
9P25 cross reacts with: Bovine, Ovine, Equine. It does not cross reacts with: Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
<b>10-50</b>			
11.1CN5	OSCAR	C	124
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
11B2G3	Cyclin A2	C	111
11C3G65	CD223		
11E4B-7-6	CD235a	<b>7</b> C F	102
12G5	CD184	<b>7</b> C B	98
12G5 cross reacts with: Cynomolgus Monkey, Olive Baboon. 12G5 cross reacts with: Bovine, Ovine, Canine.			
13B8.2	CD4	<b>3</b> W E C B	33
13B8.2 cross reacts with: Hamadryas Baboon, Olive Baboon. It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Squirrel Monkey.			
22	CD64	<b>4</b> C I F	71
22 cross reacts with: Indian Rhesus. It does not cross reacts with: Squirrel Monkey. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
22F6	Helios	C	114
25.3	CD11a	<b>4</b> I C B	39
25.3 cross reacts with: Equine, Feline, Mink. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Canine, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
39C1.5	CD2	<b>2</b> A B C	31
39C1.5 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey. 39C1.5 cross reacts with: Equine. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Feline, Mink, Llama, Rabbit, Guinea Pig.			
42D1	CD85d	C	77
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
45.15	IFN- $\gamma$	C Ci	117
45.15 cross reacts with: Indian Rhesus.			

Clone Name	Specificity	Technical Data	Page
<b>51-99</b>			
56C5.2	TCR V $\beta$ 8	C F	132
80H3	CD66b	<b>5</b> C I W F E	72
80H5	CD15	<b>5</b> C E A Ph F	43
84H10	CD54	<b>3</b> I C F B E Ci	66
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. 84H10 cross reacts with: Canine.			
88H7	CD65	<b>6</b> C W F	72
89B	CD19	<b>2</b> C I F	46
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Chimpanzee, Hamadryas Baboon, Capuchin Monkey, Squirrel Monkey.			
94	CD11b	<b>1</b> C W I B F	39
94 cross reacts with: Indian Rhesus.			
95C3	CD117	<b>5</b> C I F	84
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon.			
97A6	CD203c	<b>7</b> I C	100
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
<b>100 &amp; +</b>			
104.G4	CD208	<b>7</b> F I Ci	101
104D2D1	CD117	<b>6</b> C	84
104D2D1 cross reacts with: Bovine.			
116	CD14	<b>1</b> C I F	42
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon.			
191B8	CD161	<b>6</b> C B	96
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
259D	FoxP3	C	113
322A-1	CD14	<b>1</b> C F W I E B	42
322A-1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Capuchin Monkey, Squirrel Monkey.			
362I3	TCR V $\beta$ 5.2	C	130
366	CD13	<b>1</b> C I F	41
It does not cross reacts with: Indian Rhesus, Squirrel Monkey.			
581	CD34	<b>5</b> A C W F P	55, 57
It does not cross reacts with: Indian Rhesus, Hamadryas Baboon. 581 cross reacts with: Ovine. It does not cross reacts with: Caprine, Porcine, Canine, Feline, Llama, Rabbit, Guinea Pig, Trout, Carp.			
906	CD33	<b>2</b> C F I	54
It does not cross reacts with: Indian Rhesus.			
<b>A</b>			
AD-2	CD73	<b>4</b> C	74
AF23	TCR V $\beta$ 23	C	139

# INDICES

# Clones

Clone Name	Specificity	Technical Data	Page
AICD58	CD58	<b>5</b> C I F B	68
ALB1	CD10	F C	38
ALB1 cross reacts with: Bovine, Equine. It does not cross reacts with: Ovine, Caprine, Porcine, Canine, Feline, Llama, Rabbit, Guinea Pig, Trout, Carp.			
ALB11	CD45RA	<b>5</b> C P	63
ALB11 cross reacts with: Ovine, Equine. It does not cross reacts with: Bovine, Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
ALB12	CD45	C	62
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
ALB2	CD10	<b>3</b> C F	38, 40
ALB6	CD9	<b>3</b> C I W A F	37
ALB9	CD24	<b>6</b> E C F	49
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
AZND1	CD209	<b>7</b> C F	102
<b>B</b>			
B-A38	CD138	C	89, 92
B-R35	CD196	<b>8</b> C	98
B1.49.9	CD25	<b>2</b> I C A B	50
B1.49.9 cross reacts with: Squirrel Monkey. It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus. B1.49.9 cross reacts with: Ovine, Mink. It does not cross reacts with: Caprine, Porcine, Feline, Llama, Rabbit, Chicken, Trout, Carp.			
B1G6	$\beta$ 2-microglobulin	C	29
B8.12.2	HLA-DR	C	116
B8.12.2 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon, Common Marmoset, Cotton-topped Tamarin, Squirrel Monkey.			
B9.11	CD8	<b>1</b> C B I	36
It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
B9.12.1	HLA-ABC	C	115
B9.12.1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
B9E9	CD20	<b>5</b> C	47, 49
B9E9 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Pigtailed Macaque, Hamadryas Baboon, Olive Baboon, Sooty Mangabey. It does not cross reacts with: Common Marmoset.			
BA54	CD39	<b>5</b> C	58
BA62.6	TCR V $\beta$ 18	C F	137
BAB281	CD335	C	109
BAB281 cross reacts with: Cynomolgus Monkey, African Green, Chimpanzee, Olive Baboon, Common Marmoset.			
Bear1	CD11b	<b>6</b> C I B F	39
Bear1 cross reacts with: Ovine, Equine, Canine. It does not cross reacts with: Bovine, Caprine, Porcine, Feline, Mink, Llama, Rabbit, Chicken, Trout, Carp.			

Clone Name	Specificity	Technical Data	Page
Ber-ACT35	CD134	C	87
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. Ber-ACT35 cross reacts with: Feline.			
BL13	CD21	<b>3</b> C F I E	48
BL13 cross reacts with: Bovine, Ovine, Equine, Canine, Rabbit. It does not cross reacts with: Caprine, Porcine, Feline, Mink, Llama, Guinea Pig, Chicken, Trout, Carp.			
BL14	CD37	<b>3</b> C I F	57
It does not cross reacts with: Squirrel Monkey.			
BL168	IL-17A	C	120
BL1a	CD5	<b>3</b> C I W B	34
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Squirrel Monkey. BL1a cross reacts with: Bovine, Equine. It does not cross reacts with: Ovine, Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Chicken, Trout, Carp.			
BL37.2	TCR V $\beta$ 1	C	127
BL37.2 cross reacts with: Indian Rhesus.			
BL6	CD1a	<b>3</b> C F I	30
BL6 cross reacts with: Ovine, Equine. It does not cross reacts with: Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
BM16	CD294	C	105
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus.			
BNI3	CD152	<b>6</b> E F I C Ci	91
BNI3 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Chimpanzee, Olive Baboon. BNI3 cross reacts with: Ovine, Porcine.			
BU15	CD11c	<b>3</b> F C I	40
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon. BU15 cross reacts with: Canine.			
BY55	CD160	<b>7</b> C I B	95
BY55 cross reacts with: Sooty Mangabey. It does not cross reacts with: Cynomolgus Monkey, Olive Baboon.			
<b>C</b>			
C1.7	CD244	<b>5</b> A C W	103
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
C15	TCR V $\alpha$ 24	C F	127
C21	TCR V $\beta$ 11	C	133
C218	CD56	<b>6</b> B C	67
CAS1.1.3	TCR V $\beta$ 14	C	135
CB3-1	CD79b	<b>6</b> A C I W	75
CB3-1 cross reacts with: Mink. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
CD28.2	CD28	<b>5</b> A C B	51
CF1	CD122	<b>5</b> C E B F	85
CF1 cross reacts with: Cynomolgus Monkey, Indian Rhesus.			
CH11	CD95	<b>5</b> A C F P E	80

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# Clones

Clone Name	Specificity	Technical Data	Page
CH92	TCR V $\beta$ 3	C	128
CLB-Gran/12	CD63	4 C W Ci	71
CLB-MPO-1	Myeloperoxidase	C	122
CLB-T1/1	CD5	3 C	34
It does not cross reacts with: Common Marmoset, Cotton-topped Tamarin.			
CLB-Thromb/6	CD62P	4 W I B C F Ci	70
CLB13.17	Lactoferrin	C	122
<b>D</b>			
D3HL60.251	CD33	4 C I	54
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey.			
DCGM4	CD207	7 F C I Ci	101
DFT1	CD43	5 C P W A I F	61
DFT1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. DFT1 cross reacts with: Ovine. It does not cross reacts with: Bovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
dG9	Perforin	C	124
DREG56	CD62L	5 C W I B E F	70
DREG56 cross reacts with: Chimpanzee. It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon, Common Marmoset, Cotton-topped Tamarin. DREG56 cross reacts with: Bovine.			
<b>E</b>			
E124.2.8	IgE (D $\epsilon$ 2)	C	118
E17.5F3.15.13	TCR V $\beta$ 17	C F	136
E59.126	CD300a	C W	106
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
EB6B	CD158a,h	6 C I W B	92
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
ELL1.4	TCR V $\beta$ 20	C	137
<b>F</b>			
F15-42-1-5	CD90	6 C W	79
F15-42-1-5 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Trout, Carp.			
F38-2E2	CD366		
FA6.152	CD36	5 C F E W B t	56
FES172	CD158i	I C	94
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
FIN9	TCR V $\beta$ 9	C	132
FMC7		W C	47, 113

Clone Name	Specificity	Technical Data	Page
<b>G</b>			
G025H7	CD183	C	97
G043H7	CD197	8 C	99
GB11	Granzyme B	C	114
GB11 cross reacts with: Mouse, Rat.			
Gi9	CD49b	5 B F C I W	65
GL183	CD158b1/b2,j	6 C I W B	93
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
<b>H</b>			
H10E12F4	DAP12	C	112
H132	TCR V $\beta$ 13.2	C	134
H299	CD20	1 C F I B E	47
H299 cross reacts with: African Green, Chimpanzee, Common Marmoset, Cotton-topped Tamarin, Squirrel Monkey.			
H4A3	CD107a	5 C Ci	83
HA5.2B7	CD86	C F	79
It does not cross reacts with: Indian Rhesus. HA5.2B7 cross reacts with: Ovine, Caprine, Porcine, Mink. It does not cross reacts with: Feline, Llama, Rabbit, Trout, Carp.			
HB15a	CD83	5 C I A	77
HB15a cross reacts with: Indian Rhesus, Common Marmoset, Squirrel Monkey.			
HD237	CD19	3 C B	46
HD239	CD22	4 I F C	48
It does not cross reacts with: Squirrel Monkey.			
HD50	CD23	3 C B I	49
HI186	CD52	6 C	66
HM47	CD79a	5 I Ci F Ph C	75
HM47 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Chimpanzee, Olive Baboon.			
HP-3B1	CD94	5 B I A C F	80
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon, Squirrel Monkey.			
HP-F1	CD85j	C	78
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
HP2/1	CD49d	4 I B C F	65
HP2/1 cross reacts with: Indian Rhesus. HP2/1 cross reacts with: Bovine, Ovine, Caprine, Equine, Canine, Feline, Mink, Llama, Rabbit, Carp. It does not cross reacts with: Porcine, Chicken, Trout.			
HRS4	CD30	3 C W P I E F	52
HRS4 cross reacts with: Cynomolgus Monkey, Indian Rhesus.			
HT1 + HT4 + HT8 + TdT HT9		C	141

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# Clones

Clone Name	Specificity	Technical Data	Page
<b>I</b>			
IA6-2	IgD	C	117
IG125	TCR V $\beta$ 21.3	C	138
IL2.39.1	IL-2		119
IMMU 157	TCR V $\beta$ 5.1	C F	129
IMMU 222	TCR V $\beta$ 13.1	C F	134
IMMU 360	TCR V $\gamma$ 9	C	140
IMMU 360 cross reacts with: Squirrel Monkey.			
IMMU 389	TCR V $\delta$ 2	C	140
IMMU 546	TCR V $\beta$ 22	C F	138
Immu-357	HLA-DR	C	116, 120
Immu-357 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Cotton-topped Tamarin.			
Immu103.44	CD13	5 C	41, 43
Immu103.44 cross reacts with: Olive Baboon.			
Immu133	CD34	5 C W P F A I	55
Immu19.2	CD45	6 C	62
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus.			
IMMU510	TCR PAN $\gamma/\delta$	C I E F	126, 130
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
IP26A	TCR PAN $\alpha/\beta$	C	125
IPM2	TNF $\alpha$	C	143
ISA-3	CD278	C	104
<b>J</b>			
J.173	CD44	3 C A I	61
J.173 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
J1B3	Cytokeratin	C	112
J3-119	CD19	4 B t C	46
It does not cross reacts with: Squirrel Monkey.			
J33	CD45	3 C	62
J3D3	CD35	3 I C E B F P	56
J4.57	CD48	4 C I P	64
J5	CD10	1 F C I P B	38
J5 cross reacts with: Bovine, Ovine, Equine, Mink, Guinea Pig. It does not cross reacts with: Caprine, Porcine, Canine, Feline, Llama, Rabbit, Trout, Carp.			
JS11KSC2.3	CD55	6 I F C	67
JS64	CD81	5 C I W	76
JS64 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			

Clone Name	Specificity	Technical Data	Page
JU74.3	TCR V $\beta$ 13.6	C	135
<b>K</b>			
K20	CD29	3 I F C B	52
It does not cross reacts with: Indian Rhesus. K20 cross reacts with: Bovine, Caprine, Porcine, Equine, Canine, Mink. It does not cross reacts with: Ovine, Feline, Llama, Rabbit, Chicken, Trout, Carp.			
KC56	CD45	5 C	62
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
KC57	HIV-1 core antigen	C	114
KDR-1	CD309	8 C	107
Ki-67		F W C Ci Ph	121
KOR-SA3544		C W Ph	73
<b>L</b>			
L161	CD1c	3 C I F	30
L161 cross reacts with: Ovine. It does not cross reacts with: Bovine, Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
LS198-4-3	CD38	5 C	57
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.			
<b>M</b>			
M80	CD141	C	89
M91	CD126	6 F I B W C E	86
MA127	NTB-A	C	110
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
MA152	NKp80	C	123
MAB104	CD80	6 C I F	76
It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
MAB89	CD40	4 C P A F W E	58
It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout, Carp.			
MEM-43	CD59	4 C	69
MHR73-11	CD180	7 C	97
MP4-25D2	IL-4	C E W	119, 123
MP4-25D2 cross reacts with: Porcine, Equine.			
MPB2D5	TCR V $\beta$ 2	C	128
<b>N</b>			
N901	CD56	4 P I F B A C	67
N901 cross reacts with: Hamadryas Baboon. It does not cross reacts with: Squirrel Monkey.			



# INDICES

# Clones

Clone Name	Specificity	Technical Data	Page
NC1	CD57	<b>5</b> C W P	68
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.			
NKTA255	CD305	<b>8</b>	106
<b>O</b>			
ON72	CD314	C	107
ON72 cross reacts with: African Green, Chimpanzee, Common Marmoset.			
OX-104	CD200	<b>7</b> C	99
<b>P</b>			
P2	CD41	<b>5</b> C B E I W	59
P282E	CD59	<b>5</b> C	69
PD-L1	CD274	<b>8</b> C	104
PD1.3	CD279	<b>8</b> C	105
<b>Q</b>			
QBEnd10	CD34	<b>4</b> C W P F I A	55
QBEnd10 cross reacts with: Hamadryas Baboon. It does not cross reacts with: Olive Baboon. It does not cross reacts with: Ovine, Caprine, Porcine, Canine, Feline, Llama, Rabbit, Trout, Carp.			
QBEnd10 + Immu133 + CD34 Immu409		C	55
<b>R</b>			
R34.34	CD127	<b>6</b> B C I	86
R34.34 cross reacts with: Indian Rhesus, Pigtailed Macaque.			
R9.12	TCR V $\delta$ 1	C	139
RF3	CD157	<b>6</b> C I E	92
RM052	CD14	<b>6</b> C	42
<b>S</b>			
SA-DA4	IgM	C	118
SAM1	CD49e	<b>5</b> C F I B	66
SBZAP	ZAP-70	C	143
SC06	CD116	<b>6</b> C I W	84
SF1.340	CD135	<b>6</b> I C B	88
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
SFC112T4D11	CD4	<b>1</b> F C B	33
SFC112T4D11 cross reacts with: Hamadryas Baboon, Olive Baboon. It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Capuchin Monkey. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Chicken, Trout, Carp.			
SFC119Thy1A8	CD1a	<b>1</b> C I F	30
It does not cross reacts with: Indian Rhesus.			

Clone Name	Specificity	Technical Data	Page
SFC121Thy2D3	CD8	<b>1</b> C F B I	36
SFC121Thy2D3 cross reacts with: Common Marmoset. It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Capuchin Monkey, Squirrel Monkey.			
SFC13Pt2H9	CD2	<b>1</b> C B F	31
SFC13PT2H9 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon, Capuchin Monkey, Common Marmoset, Squirrel Monkey.			
SJ10.1H11	CD22	<b>3</b> C A I	48
It does not cross reacts with: Squirrel Monkey.			
SJ1D1	CD13	<b>3</b> C I F	41
It does not cross reacts with: Indian Rhesus, Squirrel Monkey.			
SPAN 12	Thrombin receptor	C	142
SPVL3	HLA-DQ	I B F C	115
SSDCLY107D2	CD123	C	85
SSDCLY107D2 cross reacts with: Cynomolgus Monkey. It does not cross reacts with: Indian Rhesus, Olive Baboon.			
SY/11B5	CD157	C	92
SZ1	CD42a	<b>5</b> C I W	60
SZ2	CD42b	<b>5</b> C B I W P	60
SZ21	CD61	<b>5</b> C I W E P F	69
SZ22	CD41	<b>5</b> C W E I	59
<b>T</b>			
T16	CD38	<b>3</b> F I C	57
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.			
TAMAYA1.2	TCR V $\beta$ 16	C F	136
TEA 1/31	CD144	<b>6</b> F I C	90
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
TEA 1/34	CD146	<b>6</b> C F	90
TEA3/17.1.1	CD105	<b>6</b> C	82
Thy1/310	CD90	C	79
TP1.55.3	CD69	C A I F	73
TRAP-1	CD154	<b>6</b> B C I W F	91
TRAP-1 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Hamadryas Baboon, Olive Baboon.			
<b>U</b>			
UB2	CD95	F C P	80
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon. UB2 cross reacts with: Carp. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Mink, Llama, Rabbit, Guinea Pig, Chicken, Trout.			

Clone Name	Specificity	Technical Data	Page
UCHL1	CD45RO	<sup>4</sup> C P F I B	64
It does not cross reacts with: Indian Rhesus. UCHL1 cross reacts with: Mink, Trout, Carp. It does not cross reacts with: Bovine, Ovine, Caprine, Porcine, Equine, Canine, Feline, Llama, Rabbit, Guinea Pig, Chicken.			
UCHT1	CD3	<sup>1</sup> I C A F E	32
It does not cross reacts with: Indian Rhesus, Chinese Rhesus, Squirrel Monkey.			
UIC2	CD243	B C F P	103
It does not cross reacts with: Indian Rhesus.			
UP-R1	CD158f	C	94
<b>V</b>			
VER2.32.1	TCR V $\beta$ 12	C	133
VUID9	CD326	C	108
<b>W</b>			
W6B3C1	CD133	<sup>7</sup> C	87
WEDE15	Thrombin receptor	C E	142
WJF24	TCR V $\beta$ 4	C	129
<b>Y</b>			
YDJ1.2.2	CD71	<sup>5</sup> C F	74, 77
YDJ1.2.2 cross reacts with: Cynomolgus Monkey.			
<b>Z</b>			
Z176	p75 AIRM1	C W	108
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
Z199	CD159a	I C B	95
Z199 cross reacts with: Cynomolgus Monkey, Indian Rhesus, Pigtailed Macaque, African Green, Chimpanzee, Olive Baboon, Common Marmoset.			
Z231	CD336	C	109
Z25	CD337	C	110
Z25 cross reacts with: Cynomolgus Monkey, Indian Rhesus, African Green, Chimpanzee, Olive Baboon, Common Marmoset.			
Z27.3.7	CD158e1/e2	I C B	93
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
ZIZOU4	TCR V $\beta$ 7.2	C	131
ZM3.8	CD85k	<sup>7</sup> I C	78
It does not cross reacts with: Cynomolgus Monkey, Indian Rhesus, Olive Baboon.			
ZOE	TCR V $\beta$ 7.1	C	131

## NOTES

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## NOTES

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