proteintech®

Antibodies | ELISA kits | Proteins

ANTIBODIES FOR FLOW CYTOMETRY

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ANTIBODIES FOR FLOW CYTOMETRY

SETTING THE BENCHMARK FOR ANTIBODIES IN FLOW CYTOMETRY

Flow cytometry is a powerful technique to measure properties of cells. In this method, microfluidics is used to flow cells one-by-one through lasers. The scattering of light itself can be used to distinguish different immune cells. However, when cells are stained with fluorescently tagged antibodies, the resolution of cell identity and characterization is even greater. The insights from this technology have led to breakthroughs in Immuno-oncology and infectious disease research.

Proteintech has set the benchmark for antibodies since 2003 and leads the industry in target coverage of antibodies with genetic knockdown and knockout validation. In flow cytometry, we are again focusing on providing the highest quality reagents:

- **Gold-standard clones for CD markers and other cell surface proteins, conjugated to popular dyes to conveniently fit in your panel.**
- **Every antibody is tested in-house with our product-specific protocols that are available online.**
- **Multiple fluorophores available for most targets including APC, FITC, PE, and high-performing CoraLite® dyes**

CONTENTS

FEATURED PRODUCTS

CoraLite® 647-conjugated Anti-Human CD3

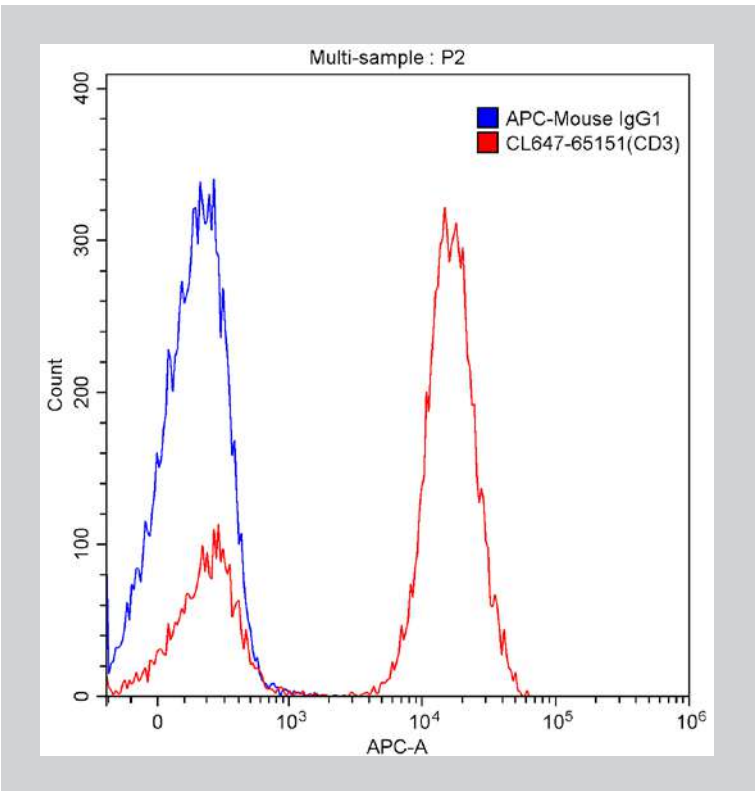
Cat. No.: CL647-65151

Clone: UCHT1

Host & ISOTYPE: Mouse IgG1

Conjugation: CoraLite® 647

CD3 is a multimeric protein associated with the T-cell receptor (TCR) and forms a complex involved in antigen recognition and signal transduction (PMID: 15885124). CD3 is composed of CD3 γ, δ, ε, and ζ chains (PMID: 1826255). It is expressed by thymocytes in a developmentally regulated manner, T cells, and some NK cells (PMID: 3289580). The TCR recognizes antigens bound to major histocompatibility complex (MHC) molecules. TCR-mediated peptide-MHC recognition is transmitted to the CD3 complex, leading to the intracellular signal transduction (PMID: 11985657).

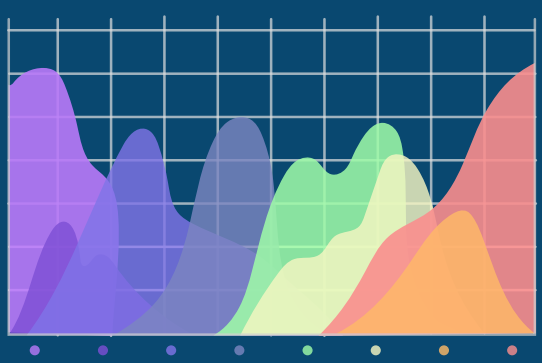


Human peripheral blood lymphocytes were surface stained with 5.00 ul/test CoraLite®647-conjugated Anti-Human CD3 (CL647-65151, Clone:UCHT1) (red) or control antibody (blue).

CARRIER-FREE AND CUSTOM ORDERS BY REQUEST

Proteintech is happy to offer all of its antibodies in bulk quantities or custom formulations such as glycerol-free, azide-free buffer.

Visit **ptglab.com/promotions/bulk-order-promotion** to learn more.



APC Anti-Human PD-1/CD279

Cat. No.: APC-65119

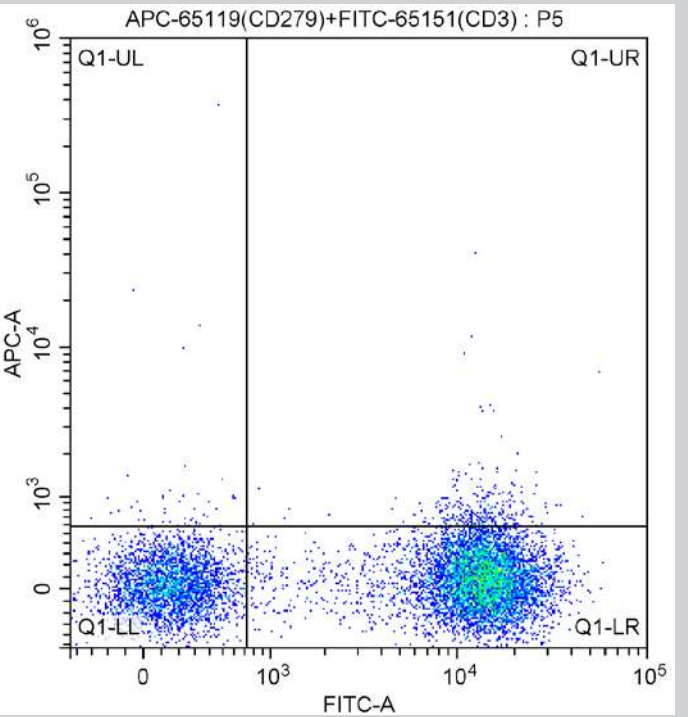
Clone: J110

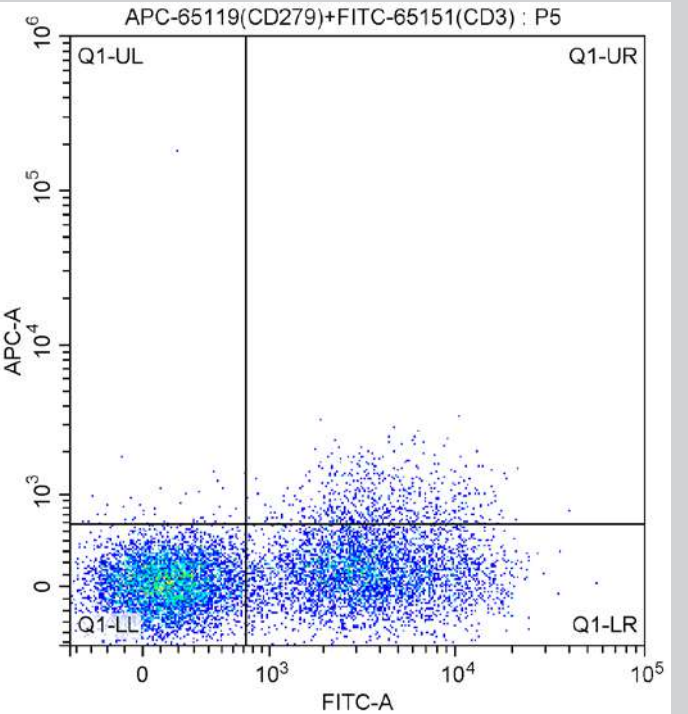
Host & Isotype: Mouse IgG1

Conjugation: APC

Programmed cell death 1 (PD-1, also known as CD279) is an immunoinhibitory receptor that belongs to the CD28/CTLA-4 subfamily of the Ig superfamily. It is a type I transmembrane protein composed of one Ig superfamily domain, a stalk, a transmembrane domain, and an intracellular domain containing an immunoreceptor tyrosine-based inhibitory motif (ITIM) as well as an immunoreceptor tyrosine-based switch motif (ITSM) (PMID: 18173375). PD-1 is expressed during thymic development and is induced in a variety of hematopoietic cells in the periphery by antigen receptor signaling and cytokines (PMID: 20636820). Engagement of PD-1 by its ligands PD-L1 or PD-L2 transduces a signal that inhibits T-cell proliferation, cytokine production, and cytolytic function (PMID: 19426218). It is critical for the regulation of T cell function during immunity and tolerance. Blockade of PD-1 can overcome immune resistance and also has been shown to have antitumor activity (PMID: 22658127; 23169436).

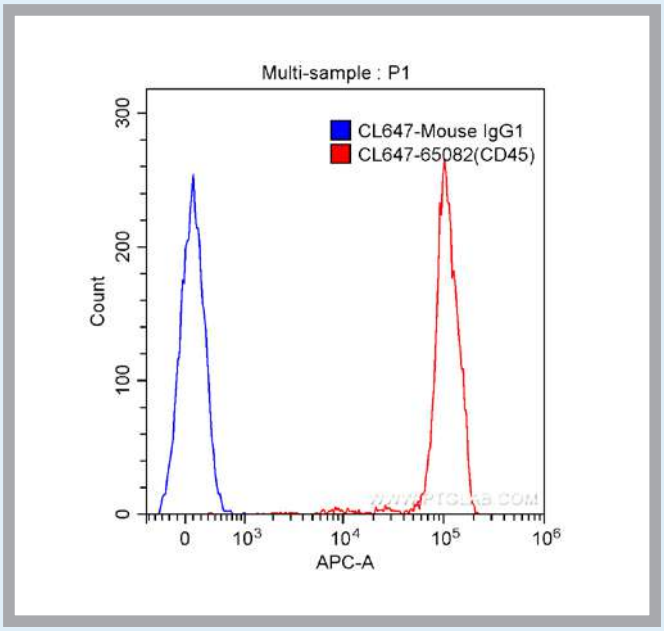
Figure legend: Human peripheral blood lymphocytes either untreated (top) or treated with PHA (5 µg/mL, overnight) (bottom) were surface stained with 0.20 ug APC-Anti-Human CD279 (PD-1) (APC-65119, clone J110) and 0.20 ug FITC-Anti-Human CD3 (FITC-65151, clone UCHT1).





PRODUCTS BY CELL TYPE

CD45 – Leukocyte common antigen



Anti-Human CD45

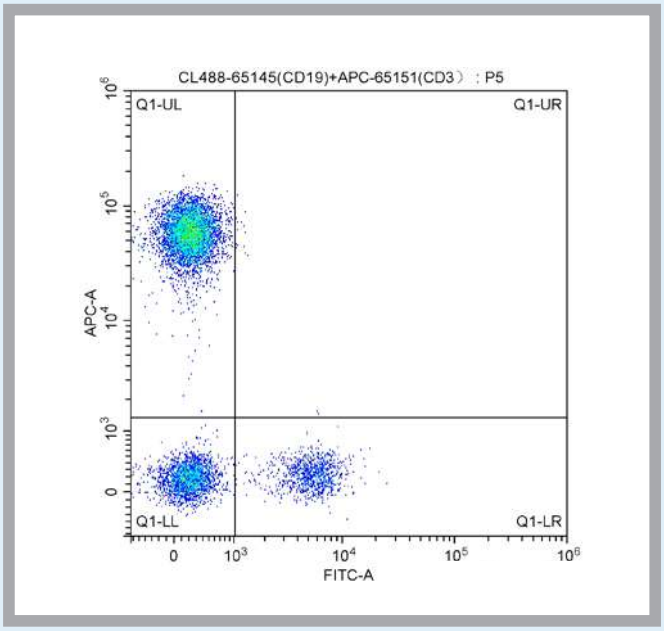
Cat. No.: CL647-65082
Clone: 2D1
Host & Isotype: Mouse IgG1
Conjugation: CoraLite® 647

1X10^6 human peripheral blood lymphocytes were surface stained with 5.00 ul/test CoraLite®647-conjugated Anti-Human CD45 (CL647-65082, Clone: 2D1) (red) or isotype control antibody (blue). Samples were not fixed.

Human		
Antigen	**Clone**	**Available fluorophores**
CD45	HI30	APC
		FITC
		PE
	2D1	FITC
		PE
		CoraLite488
		CoraLite647
	F10-89-4	APC
		FITC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD45	30-F11	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD45.1	A20	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD45.2	104	APC
		FITC
		CoraLite488
		CoraLite647

B Cells



Anti-Human CD25

Cat. No.: CL488-65096
Clone: BC96
Host & Isotype: Mouse IgG1
Conjugation: CoraLite® 488

Anti-Human CD4

Cat. No.: APC-65134
Clone: OKT4
Host & Isotype: Mouse IgG2b
Conjugation: APC

1X10^6 human peripheral blood mononuclear cells (PBMCs) were surface stained with APC Anti-Human CD4 (APC-65134, Clone: OKT4) and 5.00 ul CoraLite®488-conjugated Anti-Human CD25 (CL488-65096, Clone: BC96).

Human		
Antigen	**Clone**	**Available fluorophores**
CD5	UCHT2	APC
		PE
		CoraLite488
		CoraLite647
CD19	HIB19	APC
		PE
CD20	2H7	APC
		FITC
		PE
		CoraLite488
		CoraLite647

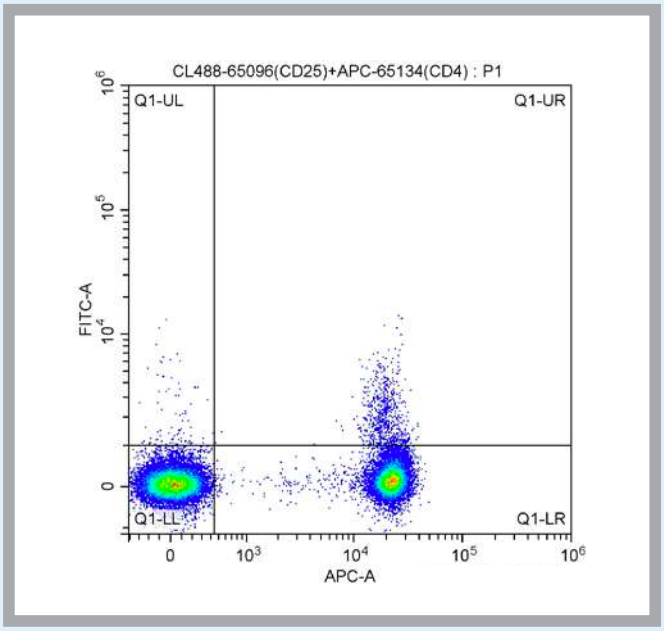
Human		
Antigen	**Clone**	**Available fluorophores**
CD25	BC96	APC
		PE
		CoraLite488
		CoraLite647
CD40	G28.5	APC
		CoraLite488
		CoraLite647
CD72	3F3	PE
CD80 (B7-1)	2D10.4	PE
		CoraLite647
IgD	IA6-2	APC
		PE

B Cells

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD25	PC61.5	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD40	1C10	APC
		FITC
		PE
		CoraLite488
CD45R (B220)	RA3-6B2	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD69	H1.2F3	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD80 (B7-1)	16-10A1	APC
		FITC
		PE
CD86	GL1	APC
		FITC
		PE

T cells



Anti-Human CD4

Cat. No.: APC-65143
Clone: RPA-T4
Host & Isotype: Mouse IgG1
Conjugation: APC

Anti-Human CD3

Cat. No.: FITC-65151
Clone: UCHT1
Host & Isotype: Mouse IgG1
Conjugation: FITC

100 ul human peripheral blood was surface stained with APC-Anti-Human CD4 (APC-65143, Clone: RPA-T4) and 5.00 ul FITC-Anti-Human CD3 (FITC-65151, Clone: UCHT1). Lymphocytes were gated for analysis. Cells were not fixed

T Cells

Human		
Antigen	**Clone**	**Available fluorophores**
CD3	Hit3a	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	OKT3	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	SK7	APC
		FITC
		PE
	UCHT1	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD4	OKT4	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	RPA-T4	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	SK3	FITC
		APC
		CoraLite488
		CoraLite647

Human		
Antigen	**Clone**	**Available fluorophores**
CD5	UCHT	APC
		PE
		CoraLite488
		CoraLite647
CD8	SK1	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD8a	Hit8a	APC
		FITC
		CoraLite488
		CoraLite647
	OKT8	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	RPA-T8	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD25	BC96	APC
		PE
		CoraLite488
		CoraLite647
CD27	O323	APC
		FITC
		PE
		CoraLite488
		CoraLite647

T Cells

Human		
Antigen	**Clone**	**Available fluorophores**
CD28	CD28.2	APC
		FITC
		PE
CD45RA	HI100	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD45RO	UCHL1	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD62L	DREG56	FITC
CD73	AD2	APC
		FITC
		PE
CD279 (PD-1)	J110	APC
		PE
		CoraLite488
		CoraLite647
CD279	EH12.2H7	APC
		FITC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD3	17A2	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD3ε	145-2C11	APC
		FITC
		PE
	500-A2	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD4	GK1.5	APC
		FITC
		PE
		CoraLite488
		CoraLite647
	RM4-5	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD8a	53-6.7	APC
		FITC
		PE

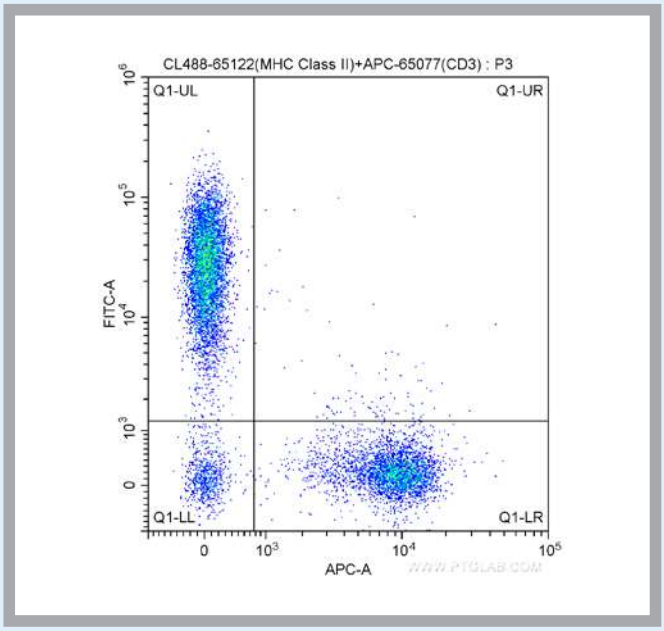
See product-specific protocols at
www.ptglab.com/support/protocols/

T Cells

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD8a	53-6.7	CoraLite488
		CoraLite647
CD25	PC61.5	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD44	IM7	APC
		FITC
		PE
		CoraLite488
CD62L (L-Selectin)	MEL-14	APC
		FITC
		PE
		CoraLite647

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD69	H1.2F3	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD127 (IL-7Ra)	A7R34	APC
		PE
		CoraLite488
		CoraLite647
CD279 (PD-1)	RMP1-30	APC
		PE
TCR beta	H57-597	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Dendritic cells



Anti-Mouse MHC Class II (I-A/I-E)

Cat. No.: CL488-65122
Clone: M5/114.15.2
Host & Isotype: Rat IgG2b
Conjugation: CoraLite® 488

Anti-Mouse CD3

Cat. No.: APC-65077
Clone: 17A2
Host & Isotype: Rat IgG2b
Conjugation: APC

1X10^6 C57BL/6 mouse splenocytes were surface stained with APC-Anti-Mouse CD3 (APC-65077, Clone: 17A2) and 5.00 ul CoraLite®488-conjugated Anti-Mouse MHC Class II (I-A/I-E) (CL488-65122, Clone: M5/114.15.2). Cells were not fixed.

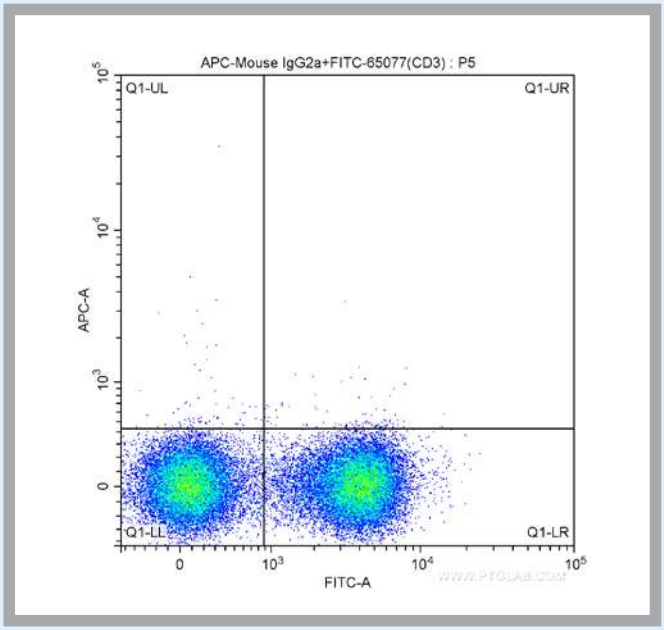
Dendritic Cells

Human		
Antigen	**Clone**	**Available fluorophores**
CD1a	HI149	APC
		FITC
		PE
CD1c	L161	APC
		PE
CD11c	3.9	FITC
		PE
		APC
		CoraLite488
		CoraLite6477

Mouse		
Antigen	**Clone**	**Available fluorophores**
MHC Class II (I-A/I-E)	M5/ 114.15.2	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD11c	N418	APC
		CoraLite488
		CoraLite647
CD8a	53-6.7	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD11b	M1/70	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD103	2E7	FITC
		PE
		CoraLite488
		CoraLite647

NK Cells



Anti-Mouse NK1.1/CD161

Cat. No.: APC-65138
Clone: PK136
Host & Isotype: Mouse IgG2A
Conjugation: APC

Anti-Mouse CD3

Cat No.: FITC-65077
Clone: 17A2
Host & Isotype: Rat IgG2b
Conjugation: FITC

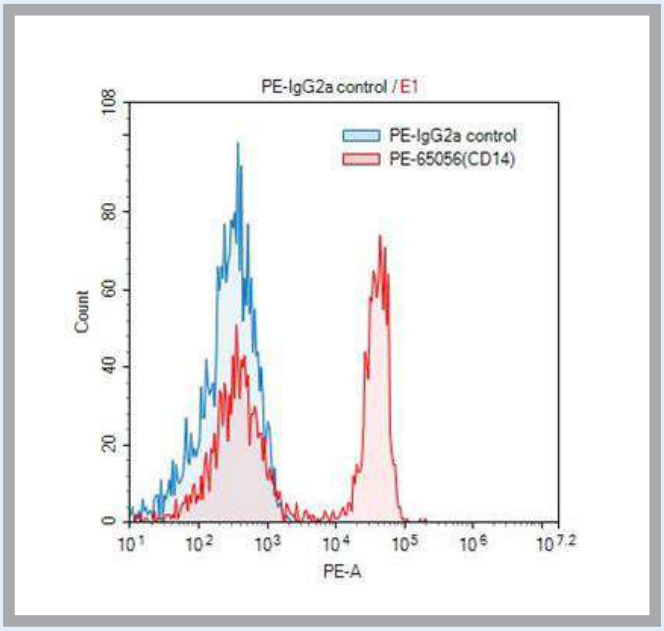
1X10^6 C57BL/6 mouse splenocytes were surface stained with FITC Anti-Mouse CD3 (FITC-65077, Clone: 17A2) and 0.13 ug APC Anti-Mouse NK1.1 (CD161) (APC-65138, Clone: PK136). Cells were not fixed.

NK Cells

Human		
Antigen	**Clone**	**Available fluorophores**
CD56	MEM 188	PE
		FITC
		PE
CD1c	CD161	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD314	1D11	APC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
NK1.1 (CD161)	PK136	APC
		PE
		CL647-65138
CD49b	DX5	APC
		FITC
		CoraLite488
		CoraLite647

Monocytes



Anti-Human CD14

Cat. No.: PE-65056
Clone: UCHM-1
Host & Isotype: Mouse IgG2a
Conjugation: PE

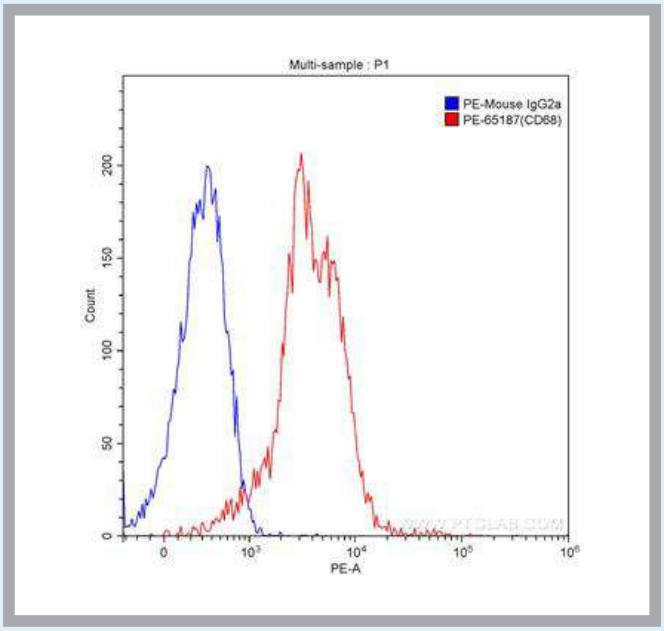
100 ul human peripheral blood was surface stained with 10 ul PE-Anti-Human CD14 (PE-65056, clone UCHM-1) (red) or PE-mouse IgG2a control antibody (blue) and then treated with red blood cell lysis buffer. Monocytes were gated for analysis. Samples were not fixed.

Monocytes

Human		
Antigen	**Clone**	**Available fluorophores**
CD11b	ICRF44	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD11c	3.9	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD14	UCHM-1	FITC
		PE
CD16	3G8	PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD11b	M1/70	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD16 / CD32	2.4G2	FITC
		PE
		CoraLite488
		CoraLite647
	93	APC
		FITC
		PE
Ly-6G (Gr-1)	RB6-8C5	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Macrophages



Anti-Human CD68

Cat. No.: PE-65187
Clone: Y1/82A
Host & Isotype: Mouse IgG2a
Conjugation: PE

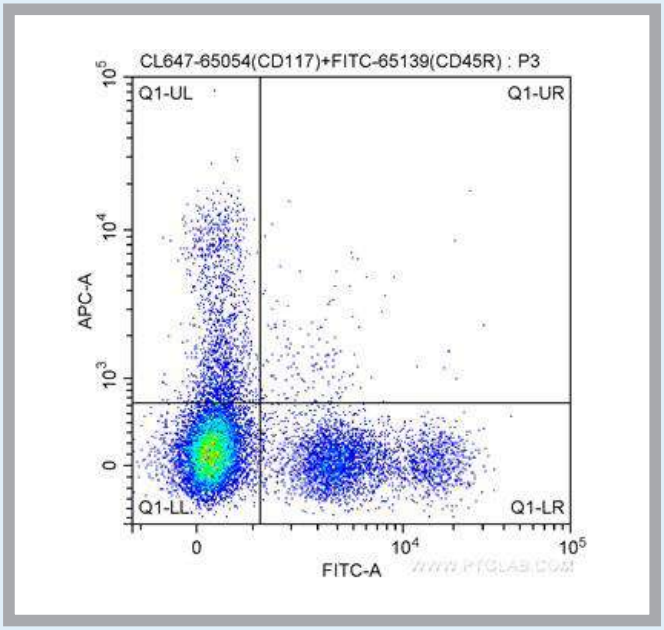
1X10^6 human peripheral blood monocytes were intracellularly stained with 10.00 ul/test PE Anti-Human CD68 (PE-65187, Clone:Y1/82A) (red) or isotype control antibody (blue). Samples were not fixed

Macrophages

Human		
Antigen	**Clone**	**Available fluorophores**
CD11b	ICRF44	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD14	UCHM-1	FITC
		PE
CD16	3G8	PE
CD68	Y1/82A	PE
		APC
CD80 (B7-1)	2D10.4	PE
CD163	GHI/61	PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD11b	M1/70	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD86	GL1	APC
		FITC
		PE

Hematopoietic stem cells



Anti-Mouse CD45R

Cat. No.: FITC-65139
Clone: RA3-6B2
Host & Isotype: Rat IgG2a
Conjugation: FITC

Anti-Mouse CD117

Cat. No.: CL647-65054
Clone: 2B8
Host & Isotype: Rat IgG2b
Conjugation: CoraLite® 647

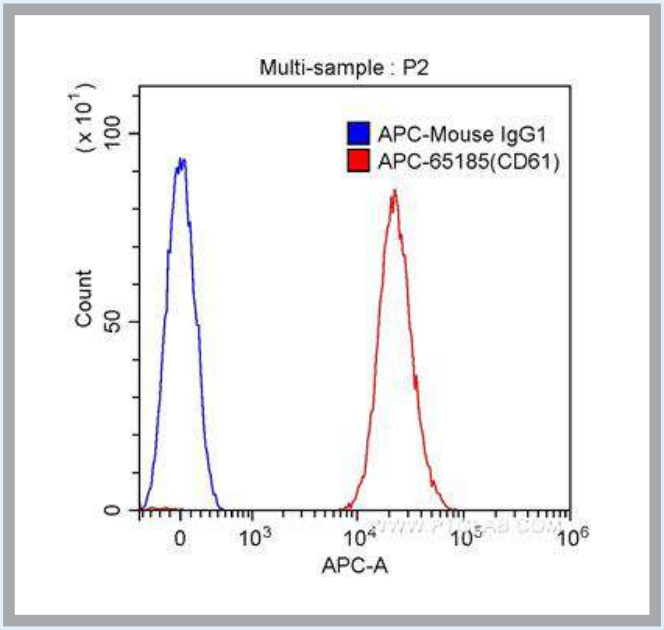
1X10^6 C57BL/6 mouse bone marrow cells were surface stained with FITC Anti-Mouse CD45R (B220) (FITC-65139, Clone: RA3-6B2) and 5.00 ul CoraLite®647-conjugated Anti-Mouse CD117 (CL647-65054, Clone: 2B8). Cells were not fixed.

Hematopoietic stem cells

Human		
Antigen	**Clone**	**Available fluorophores**
CD38	HIT2	PE
		APC
	HB7	PE
		CoraLite488
		CoraLite647
CD45RA	HI100	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD117	104D2	PE
		APC

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD38	90	FITC
		PE
		APC
		CoraLite488
		CoraLite647
CD90.2	30-H12	FITC
		PE
		APC
		CoraLite488
		CoraLite647
CD117	2B8	FITC
		PE
		APC
		CoraLite488
		CoraLite647
CD117 (c-Kit)	ACK2	PE
		APC
		CoraLite488
		CoraLite647

Megakaryocytes/platelets



CD61

Cat. No.: APC-65185
Clone: VIPL2
Host & Isotype: Mouse IgG1 Kappa
Conjugation: APC

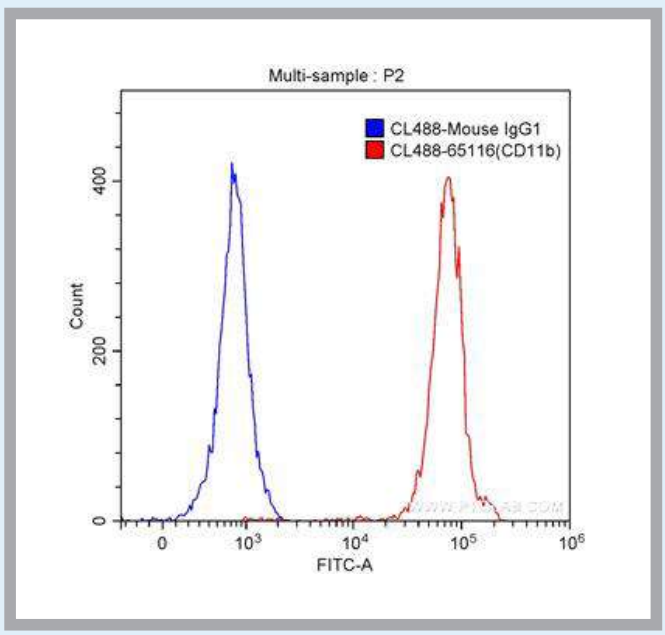
1X10^6 human peripheral blood platelets were surface stained with 10.00 ul/test APC Anti-Human CD61 (APC-65185, Clone:VIPL2) (red) or isotype control antibody (blue). Samples were not fixed.

Megakaryocytes/platelets

Human		
Antigen	**Clone**	**Available fluorophores**
CD9	MM2/57	FITC
		PE
CD61	VIPL2	APC
		FITC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD31	390	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Granulocytes



CD11b

Cat. No.: CL488-65116
Clone: ICRF44
Host & Isotype: Mouse IgG1
Conjugation: CoraLite®488

1X10^6 human peripheral blood granulocytes were surface stained with 5.00 ul/test CoraLite®488-conjugated Anti-Human CD11b (CL488-65116, Clone: ICRF44) (red) or isotype control antibody (blue). Samples were not fixed.

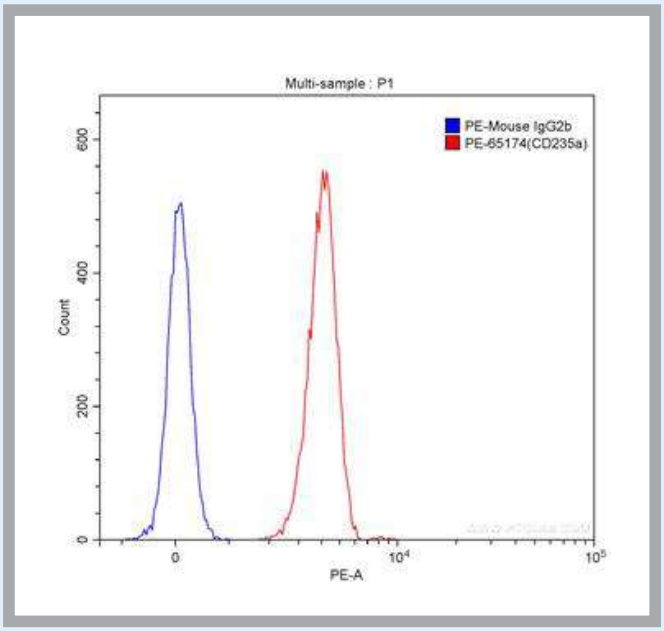
For more product information please visit **www.ptglab.com**

Granulocytes

Human		
Antigen	**Clone**	**Available fluorophores**
CD11b	ICRF44	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD11c	3.9	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD13	WM15	APC
		FITC
		PE
CD16	3G8	PE
CD44	F10-44-2	APC
		FITC
		PE
CD107a	H4A3	PE
		FITC
CD107b	H4B4	FITC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD11b	M1/70	APC
		FITC
		PE
		CoraLite488
		CoraLite647
CD11c	N418	APC
		CoraLite488
		CoraLite647
CD16 / CD32	2.4G2	FITC
		PE
		CoraLite488
		CoraLite647
	93	APC
		FITC
		PE
CD107a	1D4B	APC
		FITC
		CoraLite488
		CoraLite647
CD107b	ABL-93	APC
		FITC
		CoraLite488
		CoraLite647
Ly-6G	1A8	APC
		FITC
		PE
		CoraLite488
		CoraLite647
Ly-6G (Gr-1)	RB6-8C5	APC
		FITC
		PE
		CoraLite488
		CoraLite647

Red Blood Cells



CD235a

Cat. No.: PE-65174
Clone: HIR2
Host & Isotype: Mouse IgG2b
Conjugation: PE

Human red blood cells were surface stained with PE-Anti-Human CD235a (PE-65174, Clone:HIR2) (red) or PE-Mouse IgG2b Isotype Control (blue). Samples were not fixed.

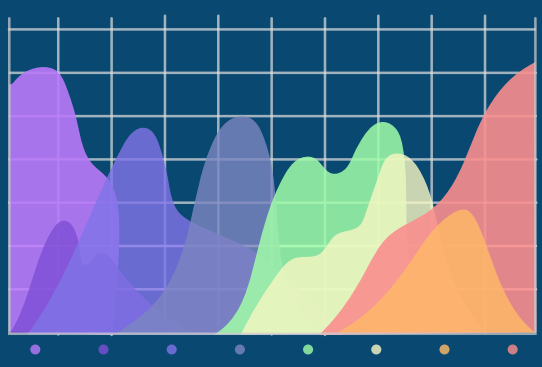
Human		
Antigen	**Clone**	**Available fluorophores**
CD235a	HIR2	FITC
		PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
TER-119	TER-119	APC
		FITC
		CoraLite488
		CoraLite647

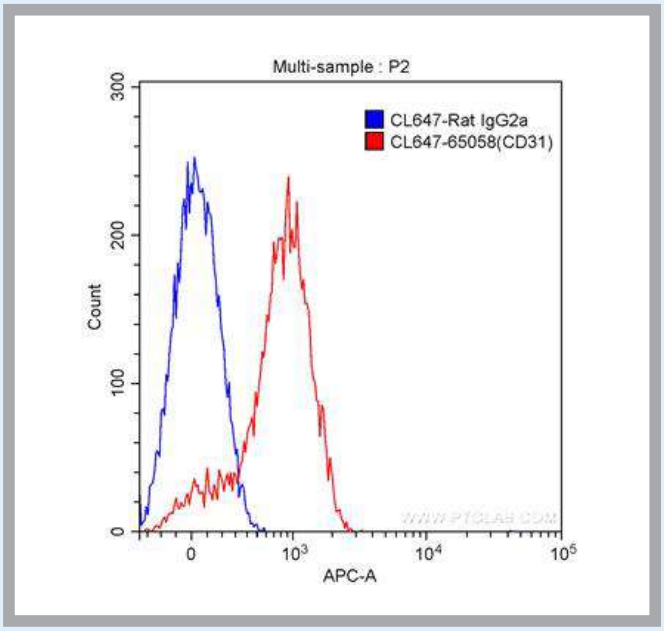
CARRIER-FREE AND CUSTOM ORDERS BY REQUEST

Proteintech is happy to offer all of its antibodies in bulk quantities or custom formulations such as glycerol-free, azide-free buffer.

Visit **ptglab.com/promotions/bulk-order-promotion** to learn more.



Endothelial cells



CD31

Cat. No.: CL647-65058
Clone: 390
Host & Isotype: Rat IgG2a
Conjugation: CoraLite®647

1X10^6 C57BL/6 mouse splenocytes were surface stained with 5.00 ul/ test CoraLite®647-conjugated Anti-Mouse CD31 (CL647-65058, Clone: 390) (red) or isotype control antibody (blue). Samples were not fixed.

Human		
Antigen	**Clone**	**Available fluorophores**
CD54 (ICAM-1)	15.2	APC
		PE
CD106	1.G11B1	PE
CD146	P1H12	PE

Mouse		
Antigen	**Clone**	**Available fluorophores**
CD31	390	APC
		FITC
		PE
		CoraLite488
CD54	YN1/1.7.4	CoraLite647
		APC
		FITC
		PE
		CoraLite488
CD146	P1H12	PE

Fluorophores and dyes

Fluorophore	Fluorescence Colour	Maximal Absorbance, nm	Maximal Emissions, nm	Relative Brightness
Alexa Fluor 405		401	421	3
Pacific Blue		410	455	1
CoraLite 488		495	519	3
FITC		490	525	3
PE*		490; 565	578	5
CoraLite 594		590	617	4
APC		650	661	4
CoraLite 647		650	665	4
PerCP		490	675	2
Alexa Fluor 700		702	723	2

*PE is the same as R-phycoerythrin

Cy = cyanine. APC = allophycocyanin. FITC = fluorescein isothiocyanate. PE = phycoerythrin. PerCP = peridinin chlorophyll protein.

The majority of flow cytometry experiments involve the use of fluorophores. They act by accepting energy of a certain wavelength (for example a laser) that causes the electrons in the fluorophore to move from a resting to an excited state, releasing energy as fluorescence at a lower wavelength. The excitation-emission spectrum of a fluorophore defines its properties when used for designing panels in multiplex experiments.

Single dye organic fluorophores such as FITC, APC, PE, and PerCP have been around for many years. More recently, synthetic dyes such as Alexa Fluor™* and CoraLite®** have been designed with enhanced brightness and greater photostability. The above table lists the absorbance and emission for each dye as a relative guide.

You can visit our interactive Spectra Viewer tool on our website to view more detail about the excitation and emission curves of CoraLite® and other fluorescent dyes. **https://www.ptglab.com/products/flow-cytometry-antibodies/**

**Alexa fluor is a registered trademark of Life Technologies Corporation*

***CoraLite is a registered trademark of Proteintech Group*

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