Antibodies

Anti-Human CD45RA Antibody, Clone HI100

Mouse monoclonal IgG2b antibody against human, chimpanzee CD45RA, unconjugated

Catalog #100-0318 100 µg 0.5 mg/mL

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Product Description

The HI100 antibody reacts with an extracellular epitope on the CD45RA isoform of CD45, a type I transmembrane glycoprotein and member of the protein tyrosine phosphatase family (receptor class 1/6 subfamily). Alternative splicing of exons 4, 5, and 6 that encode the extracellular RA, RB, and RC polypeptides of CD45 gives rise to several isoforms with molecular masses of 180 - 240 kDa. Excision of exon 4 generates the ~220-kDa CD45RA isoform, which is expressed on naïve T cells, subsets of B cells and monocytes, and medullary thymocytes. CD45RA functions to enhance signaling through both the T cell receptor and B cell receptor. The HI100 antibody is commonly used in combination with antibodies against the CD45RO isoform to discern naïve and memory T cells and is useful for identifying the suppressor/inducer subset of CD4+ lymphocytes. The proportion of CD45RA+ T cells typically decreases with age.

Target Antigen Name:	CD45RA
Alternative Names:	B220, CD45, GP180, L-CA, LCA, Lyt-4, Ly-5, Ly5, Protein tyrosine phosphatase receptor type C, PTPRC, T200
Gene ID:	5788
Species Reactivity:	Human, Chimpanzee
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	HI100
Isotype:	IgG2b, kappa
Immunogen:	CD45RA of human origin
Conjugate:	Unconjugated

Applications

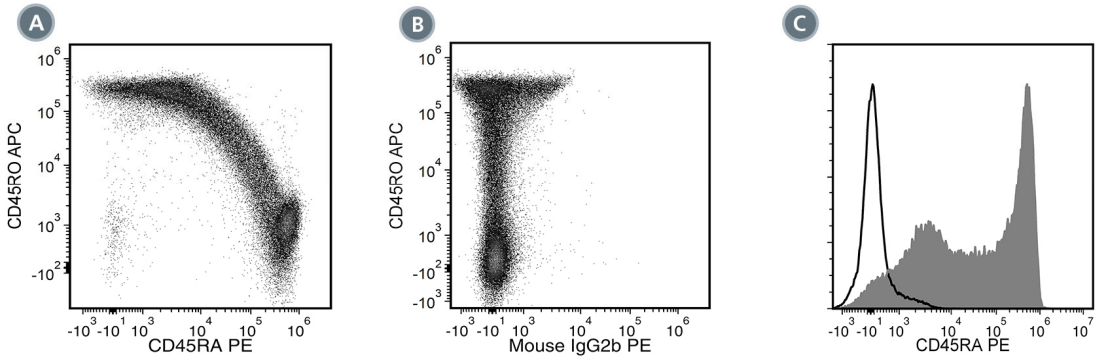
Verified:	FC
Reported:	CyTOF®, FA/Blocking, FACS, FC, ICC, IF, IHC, IP, WB
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ Human Naïve CD4+ T Cell Isolation Kit II (Catalog #17555).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered saline, pH 7.2, containing 0.09% sodium azide
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Stable until expiry date (EXP) on label.
Directions for Use:	For flow cytometry, the suggested use of this reagent is ≤ 0.1 µg per 1 x 10^6 cells in 100 µL. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs; gated on viable lymphocytes) labeled with Anti-Human CD45RA Antibody, Clone HI100, followed by a goat anti-mouse IgG2b, PE antibody, and anti-human CD45RO antibody, clone UCHL1, APC.
(B) Flow cytometry analysis of human PBMCs labeled with a mouse IgG2b, kappa isotype control antibody, Clone MPC-11, followed by a goat anti-mouse IgG2b, PE antibody, and anti-human CD45RO antibody, clone UCHL1, APC.
(C) Flow cytometry analysis of human PBMCs labeled with Anti-Human CD45RA Antibody, Clone HI100, followed by a goat anti-mouse IgG2b, PE antibody (filled histogram) or a mouse IgG2b, kappa isotype control antibody followed by a goat anti-mouse IgG2b, PE antibody (solid line histogram). Viable lymphocytes were gated for analysis.

Related Products

For a complete list of antibodies, including other conjugates, sizes, and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

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2. Lu X et al. (2017) Effective combinatorial immunotherapy for castration-resistant prostate cancer. Nature 543(7647): 728–32. (CyTOF®)
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4. Libri V et al. (2011) Cytomegalovirus infection induces the accumulation of short-lived, multifunctional CD4+CD45RA+ CD27- T cells: the potential involvement of interleukin-7 in this process. Immunology 132(3): 326–39. (FC)
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