

## Anti-Human CD45RA Antibody, Clone HI100, APC-Cyanine7



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## Antibodies

Mouse monoclonal IgG2b antibody  
against human, chimpanzee CD45RA,  
APC-Cyanine7-conjugated

Catalog #100-0316  
Catalog #100-0317

25 tests 5 µL/test  
100 tests 5 µL/test

## 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<sup>+</sup> lymphocytes. The proportion of CD45RA<sup>+</sup> 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:	APC-Cyanine7 (Allophycocyanin-Cyanine7)

## Application

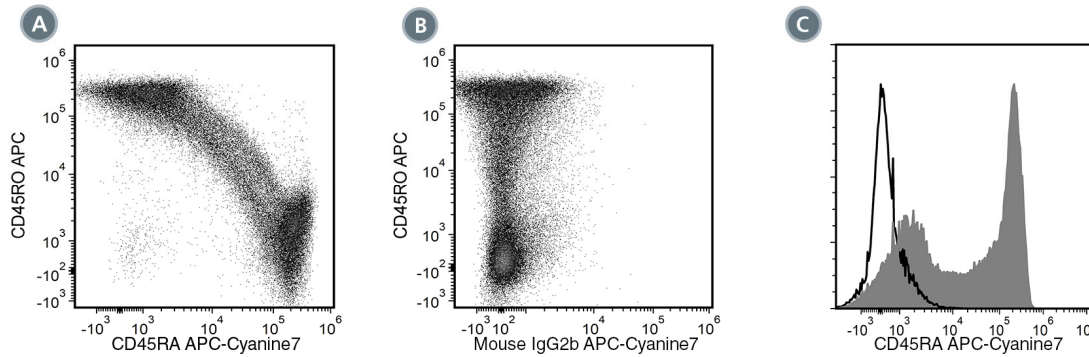
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ Human Naïve CD4 <sup>+</sup> T Cell Isolation Kit II (Catalog #17555).

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, 0.1% gelatin, and < 0.2% (w/v) bovine serum albumin
Purification:	The antibody was purified by affinity chromatography and conjugated with APC-Cyanine7 under optimal conditions. The solution is free of unconjugated APC-Cyanine7.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact <a href="mailto:techsupport@stemcell.com">techsupport@stemcell.com</a> .
Directions for Use:	For flow cytometry, the suggested use of this reagent is ≤ 5 µL per 1 × 10 <sup>6</sup> 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, APC-Cyanine7 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, APC-Cyanine7 and anti-human CD45RO antibody, clone UCHL1, APC.
- (C) Flow cytometry analysis of human PBMCs labeled with Anti-Human CD45RA Antibody, Clone HI100, APC-Cyanine7 (filled histogram) or a mouse IgG2b, kappa APC-Cyanine7 isotype control 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](http://www.stemcell.com/antibodies) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

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3. Thibaudin M et al. (2015) Human ectonucleotidase-expressing CD25<sup>high</sup> Th17 cells accumulate in breast cancer tumors and exert immunosuppressive functions. *Oncoimmunology* 5(1): e1055444. (FACS, FC)
4. Libri V et al. (2011) Cytomegalovirus infection induces the accumulation of short-lived, multifunctional CD4<sup>+</sup>CD45RA<sup>+</sup> CD27<sup>-</sup> T cells: the potential involvement of interleukin-7 in this process. *Immunology* 132(3): 326–39. (FC)
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6. Yamada T et al. (2002) CD45 controls interleukin-4-mediated IgE class switch recombination in human B cells through its function as a Janus kinase phosphatase. *J Biol Chem* 277(32): 28830–5. (FA)

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