

**CD45RA FITC Monoclonal Antibody (Clone HI100)**  
**Mouse Monoclonal Antibody**  
**Catalog # ABV11477****Specification**

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**CD45RA FITC Monoclonal Antibody (Clone HI100) - Product Information**

Application	FC
Primary Accession	<a href="#">P08575</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2b, Kappa

**CD45RA FITC Monoclonal Antibody (Clone HI100) - Additional Information****Gene ID** 5788

Positive Control	<b>FACS: Human peripheral blood lymphocytes</b>
Application & Usage	<b>Flow (Cell Surface): 5 µl/1x10<sup>6</sup> cells, Volume per test: 5 µl (1 µg).</b>

**Other Names**  
CD45RA**Target/Specificity**  
CD45RA**Antibody Form**  
Liquid**Appearance**  
Colorless liquid**Formulation**  
Phosphate-buffered aqueous solution pH 7.2, ≤0.09% Sodium azide, may contain carrier protein/stabilizer.**Handling**  
The antibody solution should be gently mixed before use.**Reconstitution & Storage**  
4°C**Background Descriptions****Precautions**  
CD45RA FITC Monoclonal Antibody (Clone HI100) is for research use only and not for use in diagnostic or therapeutic procedures.

## CD45RA FITC Monoclonal Antibody (Clone HI100) - Protein Information

**Name** PTPRC ([HGNC:9666](#))

**Synonyms** CD45

### Function

Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor (PubMed:<a href="http://www.uniprot.org/citations/35767951" target="\_blank">35767951</a>). Acts as a positive regulator of T-cell coactivation upon binding to DPP4. The first PTPase domain has enzymatic activity, while the second one seems to affect the substrate specificity of the first one. Upon T-cell activation, recruits and dephosphorylates SKAP1 and FYN. Dephosphorylates LYN, and thereby modulates LYN activity (By similarity). Interacts with CLEC10A at antigen presenting cell-T cell contact; CLEC10A on immature dendritic cells recognizes Tn antigen- carrying PTPRC/CD45 receptor on effector T cells and modulates T cell activation threshold to limit autoreactivity.

### Cellular Location

Cell membrane; Single-pass type I membrane protein. Membrane raft. Synapse. Note=Colocalized with DPP4 in membrane rafts.

### Tissue Location

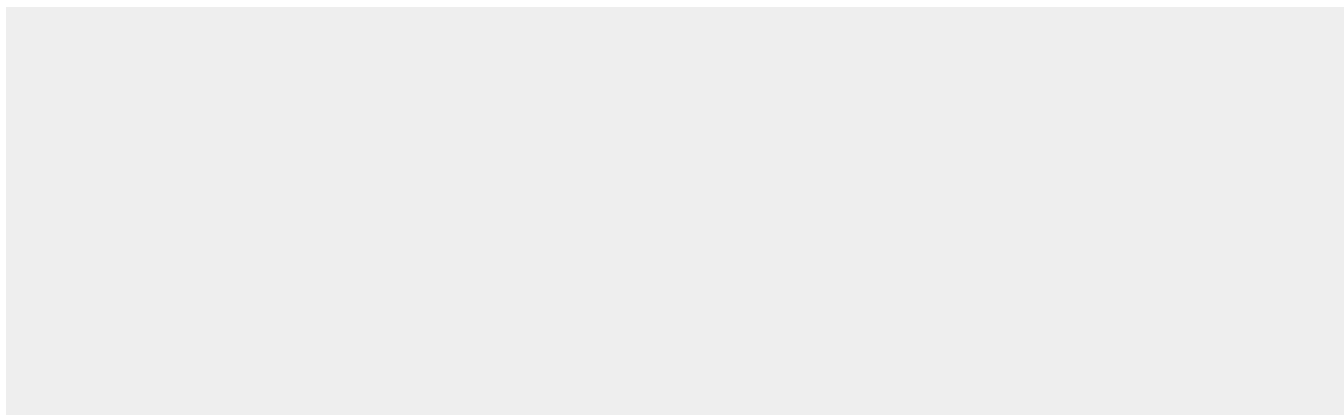
Isoform 1: Detected in thymocytes. Isoform 2: Detected in thymocytes. Isoform 3: Detected in thymocytes. Isoform 4: Not detected in thymocytes. Isoform 5: Detected in thymocytes. Isoform 6: Not detected in thymocytes. Isoform 7: Detected in thymocytes Isoform 8: Not detected in thymocytes.

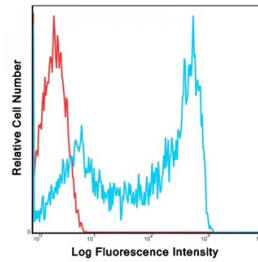
## CD45RA FITC Monoclonal Antibody (Clone HI100) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## CD45RA FITC Monoclonal Antibody (Clone HI100) - Images





Laser: Blue (488nm)  
 Peak Emission: 520nm  
 Peak Excitation: 494nm  
 Filter: 530/30  
 Brightness (1=dim, 5=brightest): 3

Human peripheral blood lymphocytes were stained with FITC HI100 with relevant isotype control in Red.

Human peripheral blood lymphocytes were stained with FITC HI100 with relevant isotype control in Red.

### CD45RA FITC Monoclonal Antibody (Clone HI100) - Background

CD45, a transmembrane multifunctional glycoprotein, is a member of Type I receptor-linked PTPase family and is expressed as multiple isoforms due to alternative splicing. Expression of these isoforms is highly regulated and shift in this expression determines T-cell activation. CD45RB consists of exon B and is predominantly expressed in naïve T-cells secreting IL-2. Its expression is low in primed/memory T cells, cells that express Th2 cytokines such as IL-4 and IL-10 and population of T-cells with regulatory function. Immunotherapy with CD45RB antibody is being widely studied in transplantation and vaccination. CD45 antibodies are commonly used to identify tumors of lymphoid origin. The HI100 monoclonal antibody specifically reacts with human CD45RA, the 220 kDa isoform of the human leukocyte common antigen (LCA) found on 40-50% of the peripheral CD4+ T lymphocytes, half of the peripheral CD8+ T lymphocytes and some of the monocytes and B lymphocytes. The CD45RA antigen is expressed by naïve and activated T lymphocytes. The HI100 monoclonal antibody is used as a phenotypic marker to discriminate T lymphocytes subsets.