

CD45 FITC Monoclonal Antibody (Clone HI30)
Mouse Monoclonal Antibody
Catalog # ABV11475**Specification**

CD45 FITC Monoclonal Antibody (Clone HI30) - Product Information

Application	FC
Primary Accession	P08575
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1, Kappa

CD45 FITC Monoclonal Antibody (Clone HI30) - Additional Information**Gene ID 5788**

Positive Control	FACS: Human peripheral blood lymphocytes
Application & Usage	Flow (Cell Surface): 5 µl/1x10⁶ cells, Volume per test: 5 µl (0.25 µg).

Other Names
CD45**Target/Specificity**
CD45**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**
CD45 FITC Monoclonal Antibody (Clone HI30) is for research use only and not for use in diagnostic or therapeutic procedures.

CD45 FITC Monoclonal Antibody (Clone HI30) - Protein Information

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

Synonyms CD45

Function

Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor (PubMed:35767951). 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

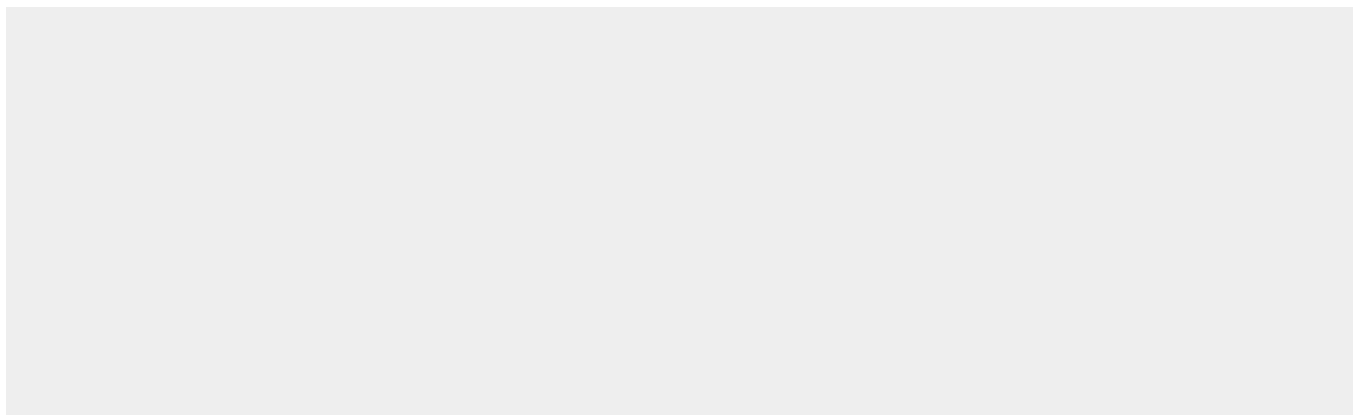
Isoform 1: Detected in thymocytes. Isoform 2: Detected in thymocytes. Isoform 3: Detected in thymocytes. Isoform 4: Not detected in thymocytes. Isoform 5: Detected in thymocytes. Isoform 6: Not detected in thymocytes. Isoform 7: Detected in thymocytes Isoform 8: Not detected in thymocytes.

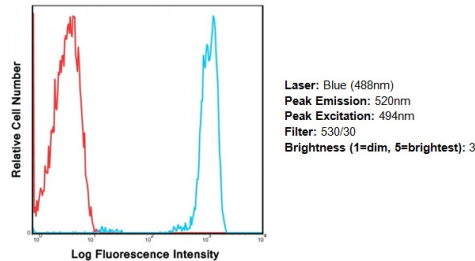
CD45 FITC Monoclonal Antibody (Clone HI30) - Protocols

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](#)

CD45 FITC Monoclonal Antibody (Clone HI30) - Images





Human peripheral blood lymphocytes were stained with FITC HI30 with relevant isotype control in Red.

Human peripheral blood lymphocytes were stained with FITC HI30 with relevant isotype control in Red.

CD45 FITC Monoclonal Antibody (Clone HI30) - 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 HI30 monoclonal antibody specifically reacts with the 180 kDa, 190 kDa, 205 kDa, and 220 kDa isoforms of the human leukocyte common antigen (LCA) CD45. It is expressed on lymphocytes, granulocytes, monocytes, thymocytes, and eosinophils, but not on mature erythrocytes, platelets, mature erythroid cells of bone marrow, and non-hematopoietic tissues. CD45 is essential for T cell activation and the tyrosine phosphatase activity of its intracellular region is integral for signal transduction.