

Store at
4°C

CD45RA (HI100) Mouse mAb (FITC Conjugate)

#23672

Cell Signaling
TECHNOLOGY®Support: +1-978-867-2388 (U.S.)
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orders@cellsignal.comEntrez-Gene ID #5788
UniProt ID #P08575

New 05/19

For Research Use Only. Not For Use In Diagnostic Procedures.**Applications**
F
Endogenous**Species Cross-Reactivity**
H**Isotype**
Mouse IgG2b

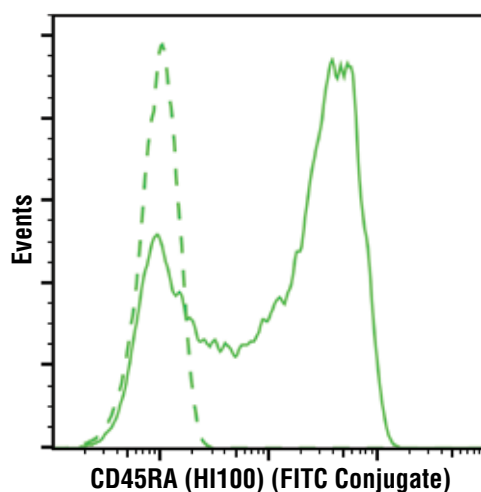
Description: This Cell Signaling Technology antibody is conjugated to FITC and tested in-house for direct flow cytometric analysis in human cells.

Background: The protein phosphatase (PTP) receptor CD45 is a type I transmembrane protein comprised of a pair of intracellular tyrosine phosphatase domains and a variable extracellular domain generated by alternative splicing (1). The catalytic activity of CD45 is a function of the first phosphatase domain (D1) while the second phosphatase domain (D2) may interact with and stabilize the first domain, or recruit/bind substrates (2,3). CD45 interacts directly with antigen receptor complex proteins or activates Src family kinases involved in the regulation of T- and B-cell antigen receptor signaling (1). Specifically, CD45 dephosphorylates Src-family kinases Lck and Fyn at their conserved negative regulatory carboxy-terminal tyrosine residues and upregulates kinase activity. Conversely, studies indicate that CD45 can also inhibit Lck and Fyn by dephosphorylating their positive regulatory autophosphorylation site. CD45 appears to be both a positive and a negative regulator that conducts signals depending on specific stimuli and cell type (1). Human leukocytes including lymphocytes, eosinophils, monocytes, basophils, and neutrophils express CD45, while erythrocytes and platelets are negative for CD45 expression (4).

Several isoforms of CD45 are generated through alternative splicing in a cell type-specific and activation state-specific manner. The HI100 antibody is widely used as a leukocyte marker for naïve and activated T cells. Naïve T cells are positive for CD45RA, where activated T cells are negative for CD45RA (5).

Specificity/Sensitivity: CD45RA (HI100) Mouse mAb (FITC Conjugate) recognizes endogenous levels of total CD45RA protein. This antibody detects an epitope within the extracellular domain.

Source/Purification: This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.



Flow cytometric analysis of live human peripheral blood mononuclear cells using CD45RA (HI100) Mouse mAb (FITC Conjugate) (solid line) compared to concentration-matched Mouse Isotype Control (FITC Conjugate) (dashed line).

Storage: Supplied in 10 mM NaH₂PO₄, 150 mM NaCl, 0.09% NaN₃, 0.1% gelatin, pH 7.2. This product is stable for 6 months when stored at 4°C. *Do not aliquot the antibody. Protect from light. Do not freeze.*

Recommended Antibody Dilutions:

Flow Cytometry 1:20

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

- (1) Huntington, N.D. and Tarlinton, D.M. (2004) *Immunol Lett* 94, 167-74.
- (2) Felberg, J. and Johnson, P. (2000) *Biochem Biophys Res Commun* 271, 292-8.
- (3) Kashio, N. et al. (1998) *J Biol Chem* 273, 33856-63.
- (4) Wang, Y. and Johnson, P. (2005) *J Biol Chem* 280, 14318-24.
- (5) Cosenza-Nashat, M.A. et al. (2006) *Brain Pathol* 16, 256-65.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.