

#55618 Store at -20°C

CD45RO (UCHL1) Mouse mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: IHC-P	Reactivity: H	Sensitivity: Endogenous	Source/Isotype: Mouse IgG2a	UniProt ID: #P08575	Entrez-Gene Id: 5788
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Product Usage Information**Application**

Immunohistochemistry (Paraffin)

Dilution

1:400

StorageSupplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

For a carrier free (BSA and azide free) version of this product see product #36282.

Specificity / Sensitivity

CD45RO (UCHL1) Mouse mAb recognizes endogenous levels of total CD45RO protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with the IL-2-dependent T cell line, CA1 (5).

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. Memory T cells are positive for CD45RO, while naive T cells are negative for CD45RO (5).

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. Penninger, J.M. et al. (2001) *Nat Immunol* 2, 389-96.
6. Smith, S.H. et al. (1986) *Immunology* 58, 63-70.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key**IHC-P:** Immunohistochemistry (Paraffin)**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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