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Store at -20C
#3575

CD45 (136-4B5) Mouse mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IHC-P	H	Endogenous	180 to 240	Mouse IgG1	#P08575	5788

Product Usage Information

Not recommended for use with fixation/permeabilization protocols that contain methanol.

Application

Immunohistochemistry (Paraffin)

Dilution

1:100

Storage

Supplied 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.

Specificity/Sensitivity

CD45 (136-4B5) Mouse mAb detects endogenous levels of total CD45 protein.

Source / Purification

Monoclonal antibody is produced by immunizing BALB/c mice with stimulated human leukocytes.

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).

Background References

- Huntington, N.D. and Tarlinton, D.M. (2004) *Immunol Lett* 94, 167-74.
- Felberg, J. and Johnson, P. (2000) *Biochem Biophys Res Commun* 271, 292-8.
- Kashio, N. et al. (1998) *J Biol Chem* 273, 33856-63.
- Wang, Y. and Johnson, P. (2005) *J Biol Chem* 280, 14318-24.

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

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