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CD45 (D3F8Q) Rabbit mAb (Alexa Fluor® 594 Conjugate)

#35154 Store at +4°C

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F, IF-IC	M	Endogenous	Rabbit IgG	#P06800	19264

Product Usage Information

Application

Immunofluorescence (Frozen)
Immunofluorescence (Immunocytochemistry)

Dilution

1:50 - 1:100
1:100

Storage

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

CD45 (D3F8Q) Rabbit mAb (Alexa Fluor® 594 Conjugate) recognizes endogenous levels of total CD45 protein. This antibody is predicted to react with both the CD45.1 and CD45.2 alleles.

Conjugates of D3F8Q lack sensitivity in CD45 low-expressing cells, including microglia, in fixed-frozen tissues by immunofluorescence.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala1258 of mouse CD45 protein.

Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 594 fluorescent dye and tested in-house for direct immunofluorescent analysis in mouse cells and tissue. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated CD45 (D3F8Q) Rabbit mAb #70257.

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

IF-F: Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

M: Mouse

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