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#55307**CD45 (30-F11) Rat mAb**

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| Applications: | Reactivity: | Sensitivity: | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|----------------------------------|---|--------------|-----------------|-------------|-----------------|
| IF-F | M | Endogenous | Rat IgG2b kappa | #P06800 | 19264 |
| Product Usage Information | Application | | | | Dilution |
| | Immunofluorescence (Frozen) | | | | 1:800 |
| 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 -20C. <i>Do not aliquot the antibody.</i> This product is stable for 60 months when stored at -20C. | | | | |
| Specificity/Sensitivity | CD45 (30-F11) Rat mAb recognizes endogenous levels of total CD45 protein. This antibody detects an epitope within the extracellular domain. | | | | |
| Source / Purification | This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. | | | | |
| Background | <p>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).</p> <p>In addition to these cell types, microglia have also been found to express CD45 (5).</p> | | | | |
| Background References | <ol style="list-style-type: none"> Huntington, N.D. and Tarlinton, D.M. (2004) <i>Immunol Lett</i> 94, 167-74. Felberg, J. and Johnson, P. (2000) <i>Biochem Biophys Res Commun</i> 271, 292-8. Kashio, N. et al. (1998) <i>J Biol Chem</i> 273, 33856-63. Wang, Y. and Johnson, P. (2005) <i>J Biol Chem</i> 280, 14318-24. Ronning, K.E. et al. (2019) <i>Sci Rep</i> 9, 4858. | | | | |
| Species Reactivity | Species reactivity is determined by testing in at least one approved application (e.g., western blot). | | | | |
| Applications Key | IF-F: Immunofluorescence (Frozen) | | | | |
| Cross-Reactivity Key | M: Mouse | | | | |
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