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#72787

CD45 (D4H7K) Rabbit mAb

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Entrez-Gene ID #19264
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New 05/18

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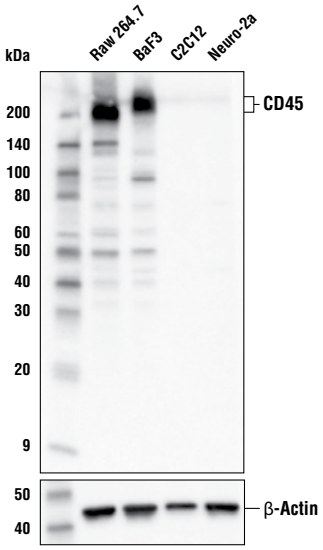
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	M	180-250 kDa	Rabbit IgG**

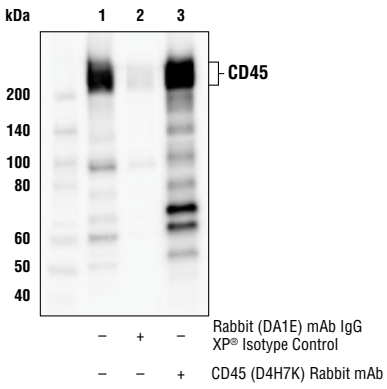
Background: The protein phosphatase (PTP) receptor CD45 is a type I transmembrane protein comprised of a pair of intracellular tyrosine phosphatase domains and a variable extracellular domain generated by alternative splicing (1). The catalytic activity of CD45 is a function of the first phosphatase 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).

Specificity/Sensitivity: CD45 (D4H7K) Rabbit mAb recognizes endogenous levels of total CD45 protein. This antibody is predicted to react with both the CD45.1 and CD45.2 alleles.

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



Western blot analysis of extracts from various cell lines using CD45 (D4H7K) Rabbit mAb (upper) and β-Actin (D6A8) Rabbit mAb #8457 (lower).



Immunoprecipitation of CD45 protein from BaF3 cell extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP® Isotype Control #3900, and lane 3 is CD45 (D4H7K) Rabbit mAb. Western blot analysis was performed using CD45 (D4H7K) Rabbit mAb. Mouse Anti-rabbit IgG (Conformation Specific) (L27A9) mAb (HRP Conjugate) #5127 was used as the secondary.

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.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:200

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.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween®20 at 4°C with gentle shaking, overnight.

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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.