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4°C

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

#35154



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**Entrez-Gene ID** #19264  
**UniProt ID** #P06800

New 07/19

**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Applications**  
IF-IC, IF-F  
Endogenous

**Species Cross-Reactivity**  
M

**Isotype**  
Rabbit IgG

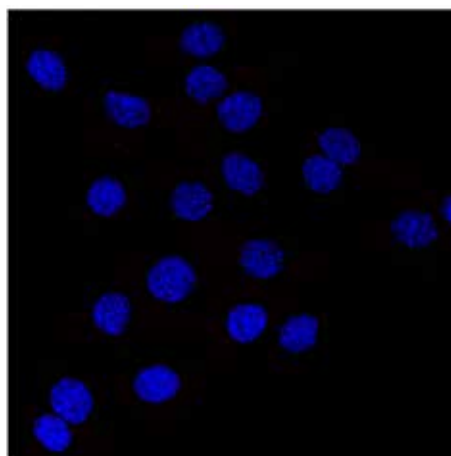
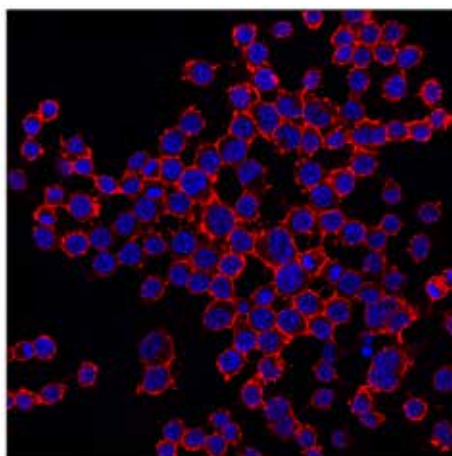
**Description:** This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 594 fluorescent dye and tested in-house for direct immunofluorescent analysis in mouse cells and tissue. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated CD45 (D3F8Q) Rabbit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

served 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 (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.

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



Confocal immunofluorescent analysis of RAW 264.7 cells (left, positive) and C2C12 cells (right, negative) using CD45 (D3F8Q) Rabbit mAb (Alexa Fluor® 594 Conjugate) (red). Samples were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).

**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.

#### Recommended Antibody Dilutions:

Immunofluorescence (IF-IC) 1:50  
Fixative: 4% Formaldehyde  
Permeabilization: 0.3% Triton X-100

Immunofluorescence (IF-F) 1:50  
Fixative: 4% Formaldehyde  
Permeabilization: 0.3% Triton X-100

**For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://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.

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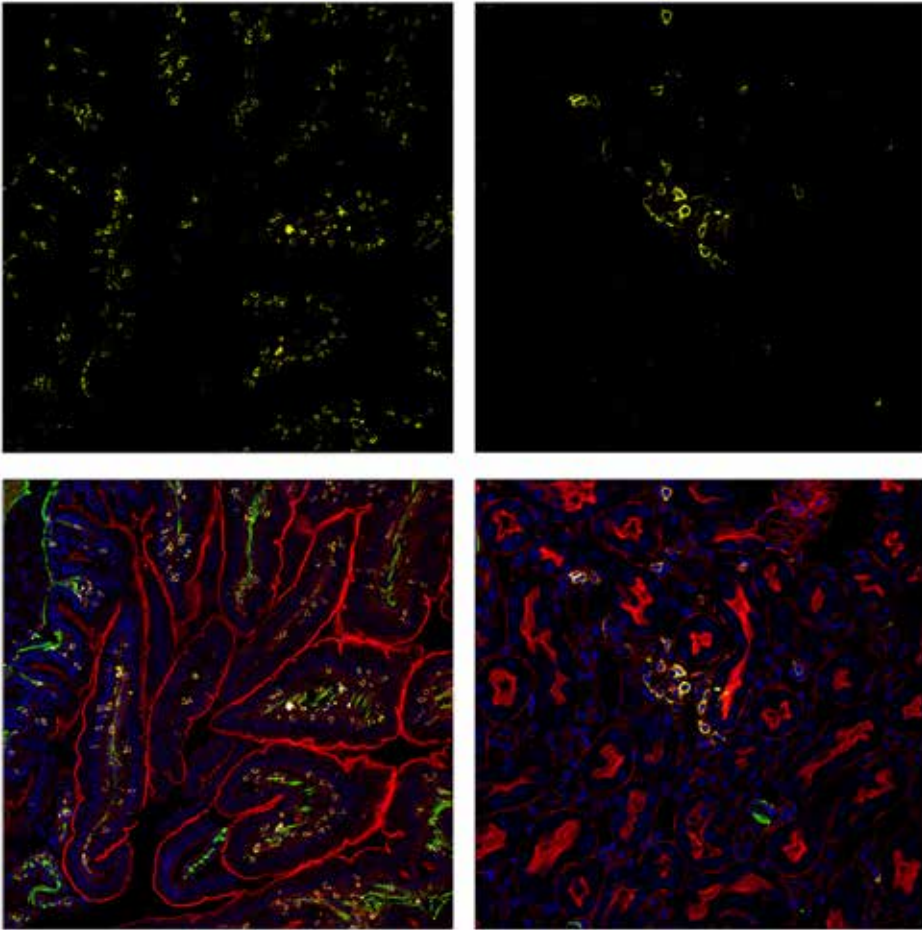
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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink 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.**



*Confocal immunofluorescent analysis of mouse small intestine (left) and kidney (right) using CD45 (D3F8Q) Rabbit mAb (Alexa Fluor® 594 Conjugate) (yellow) and  $\alpha$ -Smooth Muscle Actin (D4K9N) XP® Rabbit mAb (Alexa Fluor® 488 Conjugate) #34105 (green). Actin filaments were labeled with DyLight™ 650 Phalloidin #12956 (red). Samples were mounted in ProLong® Gold Antifade Reagent with DAPI #8961 (blue).*

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