Revision 4

Store at -20C

#99940

CD3ε (D4V8L) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-Bond, IHC-P	M	Endogenous	22	Rabbit IgG	#P22646	12501

Product Usage Information

Application	Dilution
Western Blotting	1:1000
IHC Leica Bond	1:50 - 1:200
Immunohistochemistry (Paraffin)	1:75 - 1:300

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.*

For a carrier-free (BSA and azide free) version of this product see product #47359

Specificity/Sensitivity

CD3ε (D4V8L) Rabbit mAb recognizes endogenous levels of total mouse CD3ε protein. Non-specific staining in mouse pancreas has been observed.

CD3ε (D4V8L) Rabbit mAb may react weakly with human CD3ε, but is not suggested for use in immunohistochemical analysis of human tissues. Instead, CD3ε (D7A6E™) XP® Rabbit mAb #85061 is recommended for IHC analysis of human tissue samples.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val31 of mouse CD3ε protein.

Background

When T cells encounter antigens via the T cell receptor (TCR), information about the quantity and quality of antigens is relayed to the intracellular signal transduction machinery (1). This activation process depends mainly on CD3 (Cluster of Differentiation 3), a multiunit protein complex that directly associates with the TCR. CD3 is composed of four polypeptides: ζ, γ, ε, and δ. Each of these polypeptides contains at least one immunoreceptor tyrosine-based activation motif (ITAM) (2). Engagement of the TCR complex with foreign antigens induces tyrosine phosphorylation in the ITAM motifs and phosphorylated ITAMs function as docking sites for signaling molecules such as ZAP-70 and the p85 subunit of PI-3 kinase (3,4). TCR ligation also induces a conformational change in CD3ε, such that a proline region is exposed and then associates with the adaptor protein Nck (5).

Background References

1. Kuhns, M.S. et al. (2006) *Immunity* 24, 133-139.
2. Pitcher, L.A. and van Oers, N.S. (2003) *Trends Immunol.* 24, 554-560.
3. Osman, N. et al. (1996) *Eur. J. Immunol.* 26, 1063-1068.
4. Hatada, M.H. et al. (1995) *Nature* 377, 32-38.
5. Gil, D. et al. (2002) *Cell* 109, 901-912.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IHC-Bond:** IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

M: Mouse

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