Revision 4

Store at -20C

#14971

TIM-1 (E1R9N) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-P	H	Endogenous	50, 90-140	Rabbit IgG	#Q96D42	26762

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:100

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 #71010.

Specificity/Sensitivity

TIM-1 (E1R9N) Rabbit mAb recognizes endogenous levels of total TIM-1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val24 of human TIM-1 protein.

Background

T cell Ig- and mucin-domain-containing molecules (TIMs) are a family of transmembrane proteins expressed by various immune cells. TIM-1 (HAVCR1 (hepatitis A virus cellular receptor 1), KIM-1 (kidney injury molecule-1) was originally identified as a receptor for hepatitis A virus (1). TIM-1 also acts as a costimulatory receptor on T cells and following activation, associates with the TCR complex to upregulate signaling and cytokine production (2-5). Another TIM family member, TIM-4, is expressed by antigen presenting cells and is a ligand for TIM-1 (6). TIM-1 expressed by Th1 and Th17 cells was also recently shown to interact with P-selectin to mediate T cell trafficking during inflammation and autoimmune disease (7). NKT cells also express TIM-1, and engagement of TIM-1 on NKT cells leads to increased production of IL-4, but decreased production of IFN-gamma (8). TIM-1 is also a receptor for phosphatidylserine exposed by cells undergoing apoptosis. Detection of phosphatidylserine by TIM-1 expressed on NKT cells results in activation, proliferation, and cytokine production (9). Expression of TIM-1 on regulatory B cells is required for optimal production of IL-10. Mice lacking the TIM-1 mucin domain have decreased production of IL-10 by regulatory B cells, hyperactive T cells, increased levels of inflammatory cytokines, and enhanced severity of autoimmune disease (10,11). In addition, TIM-1 polymorphisms are associated with susceptibility to atopic diseases including asthma (12,13). Finally, expression of TIM-1 is increased in renal tubular epithelial cells following kidney injury (14).

Background References

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4. Binné, L.L. et al. (2007) *J Immunol* 178, 4342-50.
5. de Souza, A.J. et al. (2008) *J Immunol* 180, 6518-26.
6. Meyers, J.H. et al. (2005) *Nat Immunol* 6, 455-64.
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8. Kim, H.S. et al. (2010) *J Immunol* 184, 4095-106.
9. Lee, H.H. et al. (2010) *J Immunol* 185, 5225-35.
10. Xiao, S. et al. (2012) *Proc Natl Acad Sci U S A* 109, 12105-10.
11. Xiao, S. et al. (2015) *J Immunol* 194, 1602-8.
12. McIntire, J.J. et al. (2001) *Nat Immunol* 2, 1109-16.
13. Khademi, M. et al. (2004) *J Immunol* 172, 7169-76.
14. Ichimura, T. et al. (1998) *J Biol Chem* 273, 4135-42.

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-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human

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