Revision 1

Store at -20C

#13996

Viperin (D5T2X) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Endogenous	42	Rabbit IgG	#Q8WXG1	91543

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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.

Specificity/Sensitivity

Viperin (D5T2X) Rabbit mAb recognizes endogenous levels of total viperin protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val270 of human viperin protein.

Background

The antiviral protein viperin (RSAD2) is induced by viral infection, lipopolysaccharides (LPS), polyriboinosinic polyribocytidylic acid [poly(I:C)], and interferons (1,2). Viperin protein localizes to the ER and redistributes to the Golgi and then to lipid droplets following viral infection (1,3). Viruses are known to use lipid droplets for replication, and the localization of the antiviral viperin protein to these lipid droplets is likely part of a cellular mechanism to inhibit these pathogens (4). Research studies indicate that induction of viperin by HIV in human macrophages inhibits virus production, and that siRNA targeting viperin reduced the inhibition of HIV replication observed in poly(I:C) treated astrocytes (5,6). Additional research suggests that human cytomegalovirus (HCMV) co-opts viperin protein function, resulting in an interaction between viperin and the viral protein vMIA. This association leads to relocalization of viperin to mitochondria, resulting in disruption of ATP generation and the actin cytoskeleton, and increased viral infection (7). The viperin protein also contributes to innate immune signaling by recruiting IRAK1 ant TRAF6 to lipid droplets, which results in activation of IRF7 and induction of type I interferon (8).

Background References

1. Chin, K.C. and Cresswell, P. (2001) *Proc Natl Acad Sci U S A* 98, 15125-30.
2. Severa, M. et al. (2006) *J Biol Chem* 281, 26188-95.
3. Hinson, E.R. and Cresswell, P. (2009) *J Biol Chem* 284, 4705-12.
4. Hinson, E.R. and Cresswell, P. (2009) *Proc Natl Acad Sci U S A* 106, 20452-7.
5. Nasr, N. et al. (2012) *Blood* 120, 778-88.
6. Rivieccio, M.A. et al. (2006) *J Immunol* 177, 4735-41.
7. Seo, J.Y. et al. (2011) *Science* 332, 1093-7.
8. Saitoh, T. et al. (2011) *Immunity* 34, 352-63.

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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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Limited Uses

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