

#14498 Store at -20C

OAS1 (D1W3A) Rabbit mAb



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Applications: WB, W-S, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 40, 44	Source/Isotype: Rabbit IgG	UniProt ID: #P00973	Entrez-Gene Id: 4938
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Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunoprecipitation	1:50

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

OAS1 (D1W3A) Rabbit mAb recognizes endogenous levels of total OAS1 protein. This antibody cross-reacts with an unidentified protein of 100 kDa in some cell lines.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp90 of human OAS1 protein.

Background

2'-5'-oligoadenylate synthetase 1 (OAS1) is an antiviral protein induced by type 1 interferon that plays a key role in the cellular innate immune response (1). The OAS family of proteins includes OAS1, OAS2, OAS3, and OASL in humans (2). The OAS1 enzyme produces the second messenger 2'-5'-linked oligoadenylate in response to cytosolic dsRNA. These 2'-5'-linked oligoadenylates bind to the ribonuclease RNase L, which then degrades viral and cellular RNA (3). Research studies indicate that the OAS1 system inhibits protein synthesis and induces apoptosis in virally infected cells, which limits viral infection (4). Alternative splicing generates multiple isoforms of human OAS1, including p41 and the canonical p46 (5,6). Polymorphisms in the corresponding OAS1 gene have been examined for possible association with increased susceptibility to type 1 diabetes mellitus, multiple sclerosis, and infection by viral pathogens (7,8).

Background References

- Schoggins, J.W. et al. (2011) *Nature* 472, 481-5.
- Chebath, J. et al. (1987) *Nature* 330, 587-8.
- Dong, B. and Silverman, R.H. (1997) *J Biol Chem* 272, 22236-42.
- Castelli, J.C. et al. (1998) *Cell Death Differ* 5, 313-20.
- Benech, P. et al. (1985) *EMBO J* 4, 2249-56.
- Saunders, M.E. et al. (1985) *EMBO J* 4, 1761-8.
- Cagliani, R. et al. (2012) *Hum Genet* 131, 87-97.
- Tessier, M.C. et al. (2006) *J Med Genet* 43, 129-32.

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

WB: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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