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VISA Antibody

Catalog # ASC10508

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q7Z434
Other Accession	NP_065797, 83776598
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	56528
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	VISA antibody can be used for detection of VISA by Western blot at 0.5 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	57506
Other Names	VISA Antibody: IPS1, VISA, IPS-1, CARDIF, IPS1, KIAA1271, Mitochondrial antiviral-signaling protein, CARD adapter inducing interferon beta, MAVS, mitochondrial antiviral signaling protein
Target/Specificity	MAVS;
Reconstitution & Storage	VISA antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	VISA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAVS {ECO:0000303|PubMed:16125763, ECO:0000312|HGNC:HGNC:29233}
Function	Adapter required for innate immune defense against viruses (PubMed:16125763, PubMed:16127453, PubMed:16153868, PubMed:16177806, PubMed:19631370, PubMed:20127681, PubMed:20451243, PubMed:21170385, PubMed:23087404, PubMed:27992402, PubMed:33139700, PubMed:37582970, PubMed:39589880, PubMed:38995016). Acts downstream of DHX33, RIGI and IFIH1/MDA5, which detect intracellular dsRNA produced during viral replication, to coordinate pathways leading to the activation of NF- kappa-B,

	IRF3 and IRF7, and to the subsequent induction of antiviral cytokines such as IFNB and RANTES (CCL5) (PubMed:16125763, PubMed:16127453, PubMed:16153868, PubMed:16177806, PubMed:19631370, PubMed:20127681, PubMed:20451243, PubMed:20628368, PubMed:21170385, PubMed:23087404, PubMed:25636800, PubMed:27736772, PubMed:33110251, PubMed:40042308). Peroxisomal and mitochondrial MAVS act sequentially to create an antiviral cellular state (PubMed:20451243). Upon viral infection, peroxisomal MAVS induces the rapid interferon-independent expression of defense factors that provide short-term protection, whereas mitochondrial MAVS activates an interferon-dependent signaling pathway with delayed kinetics, which amplifies and stabilizes the antiviral response (PubMed:20451243). May activate the same pathways following detection of extracellular dsRNA by TLR3 (PubMed:16153868). May protect cells from apoptosis (PubMed:16125763). Involved in NLRP3 inflammasome activation by mediating NLRP3 recruitment to mitochondria (PubMed:23582325).
Cellular Location	Mitochondrion outer membrane; Single-pass membrane protein. Mitochondrion. Peroxisome
Tissue Location	Present in T-cells, monocytes, epithelial cells and hepatocytes (at protein level). Ubiquitously expressed, with highest levels in heart, skeletal muscle, liver, placenta and peripheral blood leukocytes.

Background

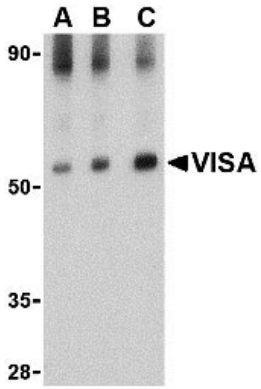
VISA Antibody: Two distinct signaling pathways activate the host innate immunity against viral infection. One pathway is reliant on members of the Toll-like receptor (TLR) family while the other uses the RNA helicase RIG-I as a receptor for intracellular viral double-stranded RNA as a trigger for the immune response. VISA is a mitochondrial membrane protein that was identified as a critical component in the IFN-b signaling pathways that recruits IRF-3 to RIG-I, leading to its activation and that of NF-κB. VISA is also thought to interact with other components of the innate immune pathway such as the TLR adapter protein TRIF, TRAF2 and TRAF6. VISA also interacts with the IKKα, IKKβ and IKKε kinases through its C-terminal region. Cleavage of this region by the Hepatitis C virus (HCV) protease allows HCV to escape the host immune system. At least three isoforms of VISA are known to exist.

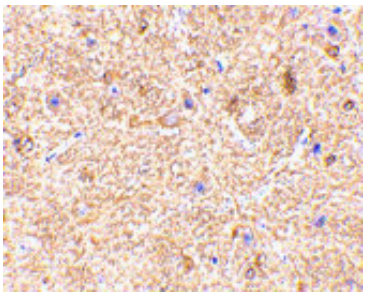
References

Seth RB, Sun L, and Chen ZJ. Antiviral innate immunity pathways. Cell Res.2006; 16:141-7.
Xu LG, Wang YY, Han KJ, et al. VISA is an adapter protein required for virus-triggered IFN-beta signaling. Mol. Cell2005; 19:727-40.
Meylan E, Curran J, Hofman K, et al. Cardif is an adaptor protein in the RIG-I antiviral pathway and is targeted by hepatitis C virus. Nature2005; 1167-72.

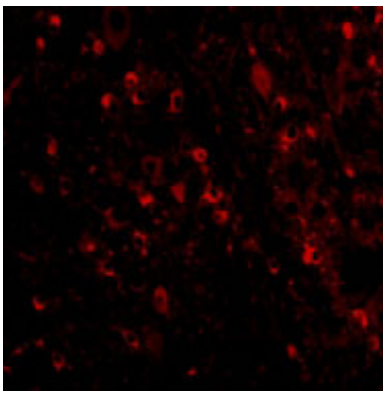
Images

Western blot analysis of VISA in rat brain tissue lysate with VISA antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.





Immunohistochemistry of VISA in mouse brain tissue with VISA antibody at 2.5 µg/mL.



Immunofluorescence of VISA in Mouse Brain cells with VISA antibody at 20 µg/mL.

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