Human VAP-A Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5820

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human VAP-A in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human VAP-B and recombinant rat VAP-B is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human VAP-A Ala2-Met132 Accession # Q9P0L0
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

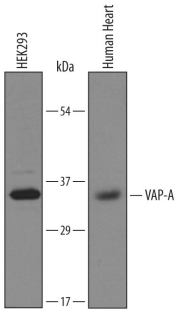
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA

Western Blot



Detection of Human VAP-A by Western Blot.
Western blot shows lysates of HEK293 human embryonic kidney cell line and human heart tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti- Human VAP-A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5820) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for VAP-A at approximately 33 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Vesicle-associated membrane protein (VAMP)-associated protein A (VAP-A; also VAMP-A and VAP-33) is a 33 kDa, ubiquitously expressed, type IV transmembrane protein belonging to the VAP family of proteins (1). It is found in plasma and ER membranes as well as in intracellular vesicles as a homodimer and a heterodimer with VAP-B. Human VAP-A is synthesized as a 249 amino acid (aa) precursor that contains a 227 aa cytoplasmic domain and a 21 aa transmembrane region. The cytoplasmic domain contains a mobile sperm protein (MSP) domain (aa 13-131) and a coiled-coil region (aa 169-205). Human VAP-A is 97% aa identical to mouse and rat VAP-A. VAP-A and VAP-B recruit FFAT (two phenylalanines in an acidic tract)-motif-containing proteins to the cytosolic surface of ER membranes through a conserved region within their MSP domain, and they have been implicated in regulation of membrane transport, phospholipid biosynthesis, and the unfolded protein response (2, 3). Their role in maintaining the identities of intracellular organelles has not been demonstrated, but their ability to interact with lipid-transfer/binding proteins (LT/BPs) may affect the lipid composition of certain cellular membranes (2, 4). One study shows that VAPs play a critical role in maintaining the structural and functional properties of the Golgi complex (2). Researchers found that knockdown of VAP reduces the levels of phosphatidylinositol-4-phosphate (PI4P), diacylglycerol (DAG), and sphingomyelin (SM) in Golgi membranes and exports pleiotropic effects in Golgi-mediated transport (2). The effects of VAPs are mediated by their interacting FFAT-motif-containing proteins Nir2, OSBP, and CERT (2). VAPs provide a scaffold for these LT/BPs at the ER-Golgi membrane contact sites, thereby affecting the lipid composition of the Golgi membranes and consequently their structural and functional identities (2). Most recently, researchers found that VAP-A associates and co-localizes with protrudin, a protein that promotes neurite formation, and found that it was an important regulator both of the subcellular localization of protrudin and of its ability to stimulate neurite outgrowth (5).

References:

1. Weir, M.L. *et al.* (1998) Biochem. J. **333**:247.
2. Peretti, D. *et al. (*2008) Mol. Biol. Cell **19**:3871.
3. Kaiser, S.E. *et al.* (2005) Structure **13**:1035.
4. Loewen, C.J. *et al.* (2003) EMBO J. **22**:2025.
5. Saita, S. *et al.* (2009) J. Biol. Chem. **284**:13766.

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