

VAMP-4 (H-65): sc-134557

BACKGROUND

Vesicle-associated membrane protein 4 (VAMP-4) belongs to a subfamily of the large SNARE family. VAMP-4 is distributed mainly in tubular and vesicular membranes of the *trans*-Golgi network, particularly in heart, brain and testis, but is found in almost all tissues. VAMP-4 interacts with small synaptic vesicles and Clathrin-coated vesicles, participating in intracellular trafficking of secreted and membrane-associated proteins. It forms a complex with the TGN-trafficking protein syntaxin 6. VAMP-4 contains a dileucine motif which binds to the adaptor protein-1 (AP-1) subunit μ -1a. Phosphorylation-dependent binding of the molecule PACS-1 to AP-1 modulates the attachment of AP-1 to VAMP-4. VAMP-4 may contribute to risk for suicide attempt, possibly through alterations in neural conduction.

REFERENCES

- Advani, R.J., Bae, H.R., Bock, J.B., Chao, D.S., Doung, Y.C., Prekeris, R., Yoo, J.S. and Scheller, R.H. 1998. Seven novel mammalian SNARE proteins localize to distinct membrane compartments. *J. Biol. Chem.* 273: 10317-10324.
- Steegmaier, M., Klumperman, J., Foletti, D.L., Yoo, J.S. and Scheller, R.H. 1999. Vesicle-associated membrane protein 4 is implicated in *trans*-Golgi network vesicle trafficking. *Mol. Biol. Cell* 10: 1957-1972.
- Eaton, B.A., Haugwitz, M., Lau, D. and Moore, H.P. 2000. Biogenesis of regulated exocytotic carriers in neuroendocrine cells. *J. Neurosci.* 20: 7334-7344.
- Peden, A.A., Park, G.Y. and Scheller, R.H. 2001. The Di-leucine motif of vesicle-associated membrane protein 4 is required for its localization and AP-1 binding. *J. Biol. Chem.* 276: 49183-49187.
- Kreykenbohm, V., Wenzel, D., Antonin, W., Atlachkine, V. and von Mollard, G.F. 2002. The SNAREs vti1a and vti1b have distinct localization and SNARE complex partners. *Eur. J. Cell Biol.* 81: 273-280.
- Zeng, Q., Tran, T.T., Tan, H.X. and Hong, W. 2003. The cytoplasmic domain of VAMP-4 and VAMP5 is responsible for their correct subcellular targeting: the N-terminal extension of VAMP-4 contains a dominant autonomous targeting signal for the *trans*-Golgi network. *J. Biol. Chem.* 278: 23046-23054.
- Hinners, I., Wendler, F., Fei, H., Thomas, L., Thomas, G. and Tooze, S.A. 2003. AP-1 recruitment to VAMP-4 is modulated by phosphorylation-dependent binding of PACS-1. *EMBO Rep.* 4: 1182-1189.
- Wasserman, D., Geijer, T., Rozanov, V. and Wasserman, J. 2005. Suicide attempt and basic mechanisms in neural conduction: relationships to the SCN8A and VAMP4 genes. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 133: 116-119.

CHROMOSOMAL LOCATION

Genetic locus: VAMP4 (human) mapping to 1q24.3; Vamp4 (mouse) mapping to 1 H2.1.

SOURCE

VAMP-4 (H-65) is a rabbit polyclonal antibody raised against amino acids 61-125 mapping within an internal region of VAMP-4 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

VAMP-4 (H-65) is recommended for detection of VAMP-4 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VAMP-4 (H-65) is also recommended for detection of VAMP-4 isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VAMP-4 siRNA (h): sc-61766, VAMP-4 siRNA (m): sc-61767, VAMP-4 shRNA Plasmid (h): sc-61766-SH, VAMP-4 shRNA Plasmid (m): sc-61767-SH, VAMP-4 shRNA (h) Lentiviral Particles: sc-61766-V and VAMP-4 shRNA (m) Lentiviral Particles: sc-61767-V.

Molecular Weight of VAMP-4: 10 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



MONOS
Satisfaction
Guaranteed

Try **VAMP-4 (D-2): sc-365332**, our highly recommended monoclonal alternative to VAMP-4 (H-65).