

VAMP-5 (E-13): sc-169766

BACKGROUND

The Syntaxin family of proteins anchor themselves to the cytoplasmic surface of cellular membranes and bind to proteins that are involved in exocytosis, including VAMPs (vesicle-associated membrane proteins), NSF (N-ethylmaleimide-sensitive factor), SNAP 25 (synaptosomal-associated protein of 25 kDa), SNAPs (soluble NSF attachment proteins) and synaptotagmin. VAMPs are vesicular factors that are important components of the machinery controlling docking and/or fusion of secretory vesicles. VAMPs are thought to function as inhibitors of exocytosis. VAMP-5 (vesicle-associated membrane protein 5) is a 116 amino acid single-pass type IV membrane protein that belongs to the synaptobrevin family. VAMP-5 may participate in trafficking events that are associated with myogenesis, such as myoblast fusion and/or Glut4 trafficking. Containing one v-SNARE coiled-coil homology domain, VAMP-5 localizes to the Golgi apparatus and is encoded by a gene located on human chromosome 2p11.2.

REFERENCES

- Edelmann, L., et al. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. *EMBO J.* 14: 224-231.
- Zeng, Q., et al. 1998. A novel synaptobrevin/VAMP homologous protein (VAMP5) is increased during *in vitro* myogenesis and present in the plasma membrane. *Mol. Biol. Cell* 9: 2423-2437.
- Zeng, Q., et al. 2003. The cytoplasmic domain of Vamp4 and Vamp5 is responsible for their correct subcellular targeting: the N-terminal extension of VAMP4 contains a dominant autonomous targeting signal for the *trans*-Golgi network. *J. Biol. Chem.* 278: 23046-23054.
- Basso, D., et al. 2004. Altered glucose metabolism and proteolysis in pancreatic cancer cell conditioned myoblasts: searching for a gene expression pattern with a microarray analysis of 5000 skeletal muscle genes. *Gut* 53: 1159-1166.
- Brinkman, J.F., et al. 2005. VAMP5 and VAMP8 are most likely not involved in primary open-angle glaucoma. *Mol. Vis.* 11: 582-586.
- Tran, T.H., et al. 2007. VAMP4 cycles from the cell surface to the *trans*-Golgi network via sorting and recycling endosomes. *J. Cell Sci.* 120: 1028-1041.
- Elfving, B., et al. 2008. Differential expression of synaptic vesicle proteins after repeated electroconvulsive seizures in rat frontal cortex and hippocampus. *Synapse* 62: 662-670.
- Rose, A.J., et al. 2009. Effects of contraction on localization of GLUT4 and v-SNARE isoforms in rat skeletal muscle. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 297: R1228-R1237.
- Elbein, S.C., et al. 2009. Genome-wide linkage and admixture mapping of type 2 diabetes in African American families from the American Diabetes Association GENNID (Genetics of NIDDM) Study Cohort. *Diabetes* 58: 268-274.

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: VAMP5 (human) mapping to 2p11.2; Vamp5 (mouse) mapping to 6 C1.

SOURCE

VAMP-5 (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of VAMP-5 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-169766 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VAMP-5 (E-13) is recommended for detection of VAMP-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other VAMP family members.

VAMP-5 (E-13) is also recommended for detection of VAMP-5 in additional species, including bovine.

Suitable for use as control antibody for VAMP-5 siRNA (h): sc-94732, VAMP-5 siRNA (m): sc-155090, VAMP-5 shRNA Plasmid (h): sc-94732-SH, VAMP-5 shRNA Plasmid (m): sc-155090-SH, VAMP-5 shRNA (h) Lentiviral Particles: sc-94732-V and VAMP-5 shRNA (m) Lentiviral Particles: sc-155090-V.

Molecular Weight of VAMP-5: 16 kDa.

Positive Controls: Human fetal lung tissue extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.

PROTOCOLS

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