SANTA CRUZ BIOTECHNOLOGY, INC.

VAMP-3 (k2A2): sc-136162

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The Power to Question

BACKGROUND

Vesicle-associated membrane proteins, known as VAMPs, also designated synaptobrevins, include VAMP-1, VAMP-2, VAMP-3 (cellubrevin), and synaptotagmin, a protein that may function as an inhibitor of exocytosis. VAMP proteins are vesicular factors that are important components of the machinery controlling docking and/or fusion of secretory vesicles with their target membrane. Synaptosomal-associated proteins, known as SNAPs, including α- and γ-SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and syntaxin. Pancreatic β-cells express VAMP-2 and VAMP-3, and either one or both of these proteins selectively control Ca^{2+}-mediated Insulin secretion. In addition, VAMP-2 and VAMP-3 are expressed on GLUT4-containing vesicle membranes isolated from 3T3-LI adipocytes and are important components of the Insulin-dependent translocation of GLUT4 to the cell surface in adipocytes.

REFERENCES

1. Elferink, L.A., et al. 1993. A role for synaptotagmin (p65) in regulated exocytosis. Cell 72: 153-159.
2. Hayashi, T., et al. 1994. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly. EMBO J. 13: 5051-5061.
3. Edelmann, L., et al. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. EMBO J. 14: 224-231.
4. Regazzi, R., et al. 1995. VAMP-2 and cellubrevin are expressed in pancreatic β-cells and are essential for Ca^{2+}-but not for GTP γ S-induced Insulin secretion. EMBO J. 14: 2723-2730.
5. McMahon, H.T., et al. 1995. Synaptic core complex of synaptobrevin, syntaxin, and SNAP 25 forms high affinity α-SNAP binding site. J. Biol. Chem. 270: 2213-2217.
6. Tamori, Y., et al. 1996. Cleavage of vesicle-associated membrane protein (VAMP)-2 and cellubrevin on Glut4-containing vesicles inhibits the translocation of Glut4 in 3T3-L1 adipocytes. Biochem. Biophys. Res. Commun. 220: 740-745.
7. Lin, R.C. and Scheller, R.H. 1997. Structural organization of the synaptic exocytosis core complex. Neuron 19: 1087-1094.

CHROMOSOMAL LOCATION

Genetic locus: VAMP3 (human) mapping to 1p36.23; Vamp3 (mouse) mapping to 4 E2.

SOURCE

VAMP-3 (k2A2) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-77 of VAMP-3 of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

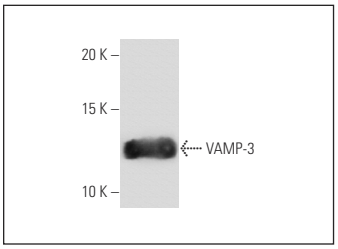
VAMP-3 (k2A2) is recommended for detection of VAMP-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VAMP-3 siRNA (h): sc-41338, VAMP-3 siRNA (m): sc-41339, VAMP-3 shRNA Plasmid (h): sc-41338-SH, VAMP-3 shRNA Plasmid (m): sc-41339-SH, VAMP-3 shRNA (h) Lentiviral Particles: sc-41338-V and VAMP-3 shRNA (m) Lentiviral Particles: sc-41339-V.

Molecular Weight of VAMP-3: 11 kDa.

Positive Controls: mouse lung extract: sc-2390.

DATA



VAMP-3 (k2A2): sc-136162. Western blot analysis of VAMP-3 expression in mouse lung tissue extract.

SELECT PRODUCT CITATIONS

1. Harada, H., et al. 2019. Extracellular phosphorylation drives the formation of neuronal circuitry. Nat. Chem. Biol. 15: 1035-1042.

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 for detailed protocols and support products.