SANTA CRUZ BIOTECHNOLOGY, INC.

VAP-B/C (1A2): sc-293364

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SNAREs are compartmentally specific, integral membrane proteins that are involved in the fusion of membranes and the transport of intracellular proteins. SNAREs are expressed at high levels in all cell types. VAMP-associated proteins (VAPs) regulate the activity of SNAREs. VAP-B is a 243 amino acid protein, which consists of a conserved N-terminal domain, an α-helical coiled-coil domain and a C-terminal transmembrane domain. VAP-C is a 99 amino acid protein that is a splice variant of VAP-B and retains the N-terminal 70 residues, but lacks both the coiled-coil and the transmembrane domains. Mutations in this "VAP-B/C" gene may result in amyotrophic lateral sclerosis, pinal muscular atrophy, progressive bulbar palsy or primary lateral sclerosis. These are all motor neuron diseases which belong to a group of neurodegenerative disorders involving the upper and/or lower motor neurons.

REFERENCES

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2. Ravichandran, V., et al. 1996. Identification of a novel syntaxin- and synaptobrevin/SNAP-23, expressed in non-neuronal tissues. J. Biol. Chem. 271: 13300-13303.
3. Nishimura, Y., et al. 1999. Molecular cloning and characterization of mammalian homologues of vesicle-associated membrane protein-associated (VAMP-associated) proteins. Biochem. Biophys. Res. Commun. 254: 21-26.
4. Zhou, Q.L., et al. 1999. Velvet antler polypeptides promoted proliferation of chondrocytes and osteoblast precursors and fracture healing. Zhongguo Yao Li Xue Bao 20: 279-282.
5. Weir, M.L., et al. 2001. VAP-A binds promiscuously to both v- and tSNAREs. Biochem. Biophys. Res. Commun. 286: 616-621.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605704. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Nishimura, A.L., et al. 2004. A mutation in the vesicle-trafficking protein VAP-B causes late-onset spinal muscular atrophy and amyotrophic lateral sclerosis. Am. J. Hum. Genet. 75: 822-831.
8. Amarilio, R., et al. 2005. Differential regulation of endoplasmic reticulum structure through VAP-Nir protein interaction. J. Biol. Chem. 280: 5934-5944.
9. Hamamoto, I., et al. 2005. Human VAP-B is involved in hepatitis C virus replicatio with NS5A and NS5B. J. Virol. 79: 13473-13482.

CHROMOSOMAL LOCATION

Genetic locus: VAPB (human) mapping to 20q13.32.

SOURCE

VAP-B/C (1A2) is a mouse monoclonal antibody raised against amino acids 124-223 of VAP-B/C of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

VAP-B/C (1A2) is recommended for detection of VAP-B/C of 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).

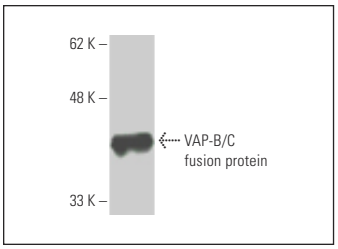
Suitable for use as control antibody for VAP-B/C siRNA (h): sc-61770, VAP-B/C shRNA Plasmid (h): sc-61770-SH and VAP-B/C shRNA (h) Lentiviral Particles: sc-61770-V.

Molecular Weight of VAP-B/C: 27 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



VAP-B/C (1A2): sc-293364. Western blot analysis of human recombinant VAP-B/C fusion protein.

SELECT PRODUCT CITATIONS

1. Choi, G.E., et al. 2018. Glucocorticoid-mediated ER-mitochondria contacts reduce AMPA receptor and mitochondria trafficking into cell terminus via microtubule destabilization. Cell Death Dis. 9: 1137.
2. Choi, G.E., et al. 2023. Glucocorticoid enhances presenilin1-dependent Aβ production at ER's mitochondrial-associated membrane by downregulating Rer1 in neuronal cells. Redox Biol. 65: 102821.

STORAGE

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