

# VAP-B/C (C-17): sc-48700

## 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  $\alpha$ -helical coiled-coil domain and a C-terminal transmembrane domain. VAP-C is a 31 kDa, 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

1. Skehel, P.A., Martin, K.C., Kandel, E.R. and Bartsch, D. 1995. A VAMP-binding protein from *Aplysia* required for neurotransmitter release. *Science* 269: 1580-1583.
2. Ravichandran, V., Chawla, A. and Roche, P.A. 1996. Identification of a novel syntaxin- and synaptobrevin/SNAP-23, expressed in non-neuronal tissues. *J. Biol. Chem.* 271: 13300-13303.
3. Nishimura, Y., Hayashi, M., Inada, H. and Tanaka, T. 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., Guo, Y.J., Wang, L.J., Wang, Y., Liu, Y.Q., Wang, Y. and Wang, B.X. 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., Xie, H., Klip, A. and Trimble, W.S. 2001. VAP-A binds promiscuously to both v- and tSNAREs. *Biochem. Biophys. Res. Commun.* 286: 616-621.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605704. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Nishimura, A.L., Mitne-Neto, M., Silva, H.C., Richieri-Costa, A., Middleton, S., Cascio, D., Kok, F., Oliveira, J.R., Gillingwater, T., Webb, J., Skehel, P. and Zatz, M. 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., Ramachandran, S., Sabanay, H. and Lev, S. 2005. Differential regulation of endoplasmic reticulum structure through VAP-Nir protein interaction. *J. Biol. Chem.* 280: 5934-5944.
9. Hamamoto, I., Nishimura, Y., Okamoto, T., Aizaki, H., Liu, M., Mori, Y., Abe, T., Suzuki, T., Lai, M.M., Miyamura, T., Moriishi, K. and Matsuura, Y. 2005. Human VAP-B is involved in hepatitis C virus replication through interaction with NS5A and NS5B. *J. Virol.* 79: 13473-13482.

## CHROMOSOMAL LOCATION

Genetic locus: *Vapb* (mouse) mapping to 2 H4.

## SOURCE

VAP-B/C (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of VAP-B/C of mouse origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-48700 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

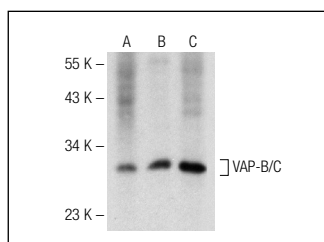
VAP-B/C (C-17) is recommended for detection of VAP-B/C of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for VAP-B/C siRNA (m): sc-61771, VAP-B/C shRNA Plasmid (m): sc-61771-SH and VAP-B/C shRNA (m) Lentiviral Particles: sc-61771-V.

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

Positive Controls: mouse brain extract: sc-2253, mouse kidney extract: sc-2255 or mouse liver extract: sc-2256.

## DATA



VAP-B/C (C-17): sc-48700. Western blot analysis of VAP-B/C expression in mouse kidney (A), mouse brain (B) and mouse liver (C) tissue extracts.

## 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.