

VAMP-2 (h2): 293T Lysate: sc-115139

BACKGROUND

Syntaxins were originally thought to be docking proteins, but have more recently been categorized as anchoring proteins that anchor themselves to the cytoplasmic surfaces of cellular membranes. Syntaxins have been shown to bind to various proteins 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, also designated synaptobrevins, including VAMP-1 and VAMP-2, and synaptotagmin, a protein that may function as an inhibitor of exocytosis, are vesicular proteins. SNAPs, including α - and γ -SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and syntaxin. SNAPs mediate the membrane binding of NSF, which is essential for membrane fusion reactions. An additional protein designated synaptophysin may regulate exocytosis by competing with SNAP 25 and syntaxins for VAMP binding.

REFERENCES

1. Bennett, M.K., Garcia-Ararras, J.E., Elferink, L.A., Peterson, K., Fleming, A.M., Hazuka, C.D. and Scheller, R.H., 1993. The syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
2. Yamaguchi, K. and Akagawa, K. 1994. Exocytosis relating proteins in the nervous system. *Neurosci. Res.* 20: 289-292.
3. Edelman, L., Hanson, P.I., Chapman, E.R. and Jahn, R. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. *EMBO J.* 14: 224-231.
4. Hayashi, T., McMahon, H., Yamasaki, S., Binz, T., Hata, Y., Sudhof, T.C. and Niemann, H. 1994. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly. *EMBO J.* 13: 5051-5061.
5. Elferink, L.A., Peterson, M.R. and Scheller, R.H. 1993. A role for synaptotagmin (p65) in regulated exocytosis. *Cell* 72: 153-159.
6. McMahon, H.T. and Sudhof, T.C. 1995. Synaptic core complex of synaptobrevin, syntaxin, and SNAP25 forms high affinity α -SNAP binding site. *J. Biol. Chem.* 270: 2213-2217.
7. Lin, R.C. and Scheller, R.H. 1997. Structural organization of the synaptic exocytosis core complex. *Neuron* 19: 1087-1094.
8. Barnard, R.J., Morgan, A. and Burgoyne, R.D. 1997. Stimulation of NSF ATPase activity by α -SNAP is required for SNARE complex disassembly and exocytosis. *J. Cell Biol.* 139: 875-883.

CHROMOSOMAL LOCATION

Genetic locus: VAMP2 (human) mapping to 17p13.1.

PRODUCT

VAMP-2 (h2): 293T Lysate represents a lysate of human VAMP-2 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

VAMP-2 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive VAMP-2 antibodies. Recommended use: 10-20 μ l per lane.

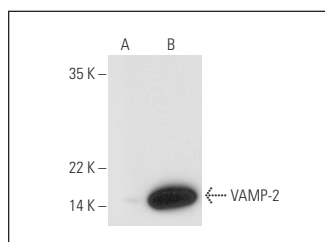
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

VAMP-1/2 (4E240): sc-58309 is recommended as a positive control antibody for Western Blot analysis of enhanced human VAMP-2 expression in VAMP-2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

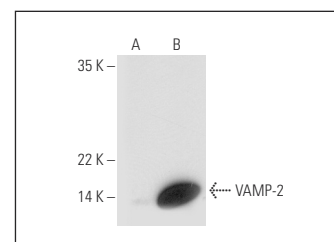
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



VAMP-1/2 (4E240): sc-58309. Western blot analysis of VAMP-2 expression in non-transfected: sc-117752 (A) and human VAMP-2 transfected: sc-115139 (B) 293T whole cell lysates.



VAMP-1/2 (4H302): sc-58310. Western blot analysis of VAMP-2 expression in non-transfected: sc-117752 (A) and human VAMP-2 transfected: sc-115139 (B) 293T whole cell lysates.

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.