

α/β -SNAP (FL-295): sc-13991

BACKGROUND

Syntaxins, six of which have been identified, 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 exo-cytosis by competing with SNAP 25 and syntaxins for VAMP binding.

REFERENCES

- Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. *Cell* 74: 863-873.
- Elferink, L.A., et al. 1993. A role for synaptotagmin (p65) in regulated exocytosis. *Cell* 72: 153-159.
- Yamaguchi, K. and Akagawa, K. 1994. Exocytosis relating proteins in the nervous system. *Neurosci. Res.* 20: 289-292.
- Hayashi, T., et al. 1994. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly. *EMBO J.* 13: 5051-5061.
- Edelmann, L., et al. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. *EMBO J.* 14: 224-231.
- McMahon, H.T. and Sudhof, T.C. 1995. Synaptic core complex of synaptobrevin, syntaxin, and SNAP25 forms high affinity alpha-SNAP binding site. *J. Biol. Chem.* 270: 2213-2217.
- Lin, R.C. and Scheller, R.H. 1997. Structural organization of the synaptic exocytosis core complex. *Neuron* 19: 1087-1094.
- Barnard, R.J., et al. 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: NAPA (human) mapping to 19q13.32, NAPB (human) mapping to 20p11.21; Napa (mouse) mapping to 7 A2, Napb (mouse) mapping to 2 G3.

SOURCE

α/β -SNAP (FL-295) is a rabbit polyclonal antibody raised against amino acids 1-295 representing full length α -SNAP of human origin.

PRODUCT

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

APPLICATIONS

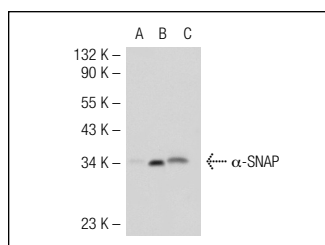
α/β -SNAP (FL-295) is recommended for detection of α -SNAP and β -SNAP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α/β -SNAP (FL-295) is also recommended for detection of α -SNAP and β -SNAP in additional species, including equine, canine, bovine and porcine.

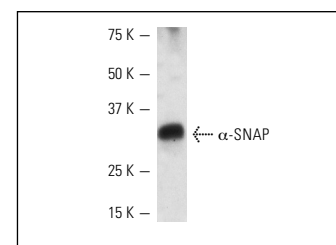
Molecular Weight of α/β -SNAP: 38 kDa.

Positive Controls: α -SNAP (m): 293T Lysate: sc-126355, HeLa whole cell lysate: sc-2200 or mouse brain extract: sc-2253.

DATA



α/β -SNAP (FL-295): sc-13991. Western blot analysis of α -SNAP expression in non-transfected 293T: sc-117752 (A), mouse α -SNAP transfected 293T: sc-126355 (B) and HeLa (C) whole cell lysates.



α/β -SNAP (FL-295): sc-13991. Western blot analysis of α -SNAP expression in mouse brain.

SELECT PRODUCT CITATIONS

- Matsushita, K., et al. 2003. Nitric oxide regulates exocytosis by S-nitrosylation of N-ethylmaleimide-sensitive factor. *Cell* 115: 139-50.
- Hong, H.K., et al. 2004. The gene for soluble N-ethylmaleimide sensitive factor attachment protein α is mutated in hydrocephaly with Hop gait (hyh) mice. *Proc. Natl. Acad. Sci. USA* 101: 1748-1753.

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.


 MONOS
Satisfaction
Guaranteed

Try α/β -SNAP (G-3): sc-48349 or α/β -SNAP (A-3): sc-271066, our highly recommended monoclonal alternatives to α/β -SNAP (FL-295).