SANTA CRUZ BIOTECHNOLOGY, INC.

Syntaxin 1A (3-225): sc-4342 WB



BACKGROUND

Correct vesicular transport is essential to the survival of eukaryotic cells. This process is determined by specific pairing of vesicle-associated SNAREs (v-SNAREs) with those on the target membrane (t-SNAREs). This complex then recruits soluble NSF attachment proteins (SNAPs) and N-ethylmaleimide-sensitive factor (NSF) to form the highly stable SNAP receptor (SNARE) complex. The formation of a SNARE complex pulls the vesicle and target membrane together and may provide the energy to drive fusion of the lipid bilayers. Syntaxins, a family of proteins involved in the fusion of synaptic vesicles with the plasma membrane, display broad tissue distribution and contain carboxy-terminal hydrophobic domains that direct themselves to their respective intracellular compartments. Syntaxin 1 (or Syntaxin 1A) is a type of tSNARE that plays an important role in neurotransmitter release via multiple protein-protein interactions. Syntaxin 1 is also expressed in airway epithelial cells where it regulates CFTR.

REFERENCES

- Elferink, L.A., Peterson, M.R., and Scheller, R.H. 1993. A role for synaptotagmin (p65) in regulated exocytosis. Cell 72: 153-159.
- Bennett, M.K., Garcia-Arraras, 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.
- Yamaguchi, K. and Akagawa, K. 1994. Exocytosis relating proteins in the nervous system. Neurosci. Res. 20: 289-292.
- 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.
- Edelmann, 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.
- 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.
- 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.

SOURCE

Syntaxin 1A (3-225) is expressed in *E. coli* as a 52 kDa tagged fusion protein corresponding to amino acids 3-225 representing full length Syntaxin of human origin.

PRODUCT

Syntaxin 1A (3-225) is purified from bacterial lysates (>98%) by column chromotography; supplied as 10 μ g in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Syntaxin 1A (3-225) is suitable as a Western blotting control for sc-7562 and sc-13994.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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