SANTA CRUZ BIOTECHNOLOGY, INC.

Syntaxin 3 (N-17): sc-47437

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 3 localizes to the apical plasma membrane and is involved in membrane fusion of apical trafficking pathways. Syntaxin 3 is a key factor in the growth of neurites, and it also functions as a direct target for arachidonic acid. Human Syntaxin 3 has two forms: Syntaxin 3A and 3B, while the mouse version has four forms: 3A, 3B, 3C and 3D.

REFERENCES

1. Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. Cell 74: 863-873.
2. Nagahama, M., et al. 1996. A v-SNARE implicated in intra-Golgi transport. J. Cell Biol. 133: 507-516.
3. Lowe, S.L., et al. 1997. A SNARE involved in protein transport through the Golgi apparatus. Nature 389: 881-884.
4. Bentz, J. and Mittal, A. 2000. Deployment of membrane fusion protein domains during fusion. Cell Biol. Int. 24: 819-838.
5. Watson, R.T. and Pessin, J.E. 2001. Transmembrane domain length determines intracellular membrane compartment localization of Syntaxins 3, 4, and 5. Am. J. Physiol. Cell Physiol. 281: C215-C223.
6. ter Beest, M.B., et al. 2005. The role of syntaxins in the specificity of vesicle targeting in polarized epithelial cells. Mol. Biol. Cell 16: 5784-5792.
7. Sharma, N., et al. 2006. Apical targeting of Syntaxin 3 is essential for epithelial cell polarity. J. Cell Biol. 173: 937-948.

CHROMOSOMAL LOCATION

Genetic locus: STX3 (human) mapping to 11q12.1; Stx3 (mouse) mapping to 19 A.

SOURCE

Syntaxin 3 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Syntaxin 3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-47437 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Syntaxin 3 (N-17) is recommended for detection of Syntaxin 3 isoforms A and B of mouse, rat and 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)], 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).

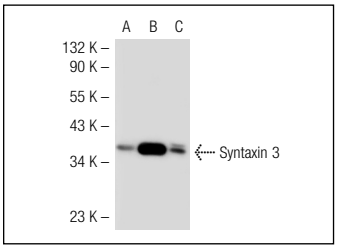
Syntaxin 3 (N-17) is also recommended for detection of Syntaxin 3 isoforms A and B in additional species, including equine and bovine.

Suitable for use as control antibody for Syntaxin 3 siRNA (h): sc-41328, Syntaxin 3 siRNA (m): sc-41329, Syntaxin 3 shRNA Plasmid (h): sc-41328-SH, Syntaxin 3 shRNA Plasmid (m): sc-41329-SH, Syntaxin 3 shRNA (h) Lentiviral Particles: sc-41328-V and Syntaxin 3 shRNA (m) Lentiviral Particles: sc-41329-V.

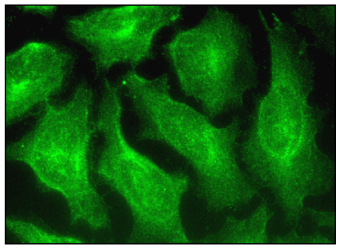
Molecular Weight of Syntaxin 3: 37 kDa.

Positive Controls: Syntaxin 3 (m): 293T Lysate: sc-123879 or H4 cell lysate: sc-2408.

DATA



Syntaxin 3 (N-17): sc-47437. Western blot analysis of Syntaxin 3 expression in non-transfected 293T: sc-117752 (**A**), mouse Syntaxin 3 transfected 293T: sc-123879 (**B**) and H4 (**C**) whole cell lysates.



Syntaxin 3 (N-17): sc-47437. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.