SANTA CRUZ BIOTECHNOLOGY, INC.

Syntaxin 7 (G-7): sc-514157

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 7 binds α-SNAP *in vitro* and forms a complex with Syntaxin 8, vti1b and VAMP-8 that functions in the fusion of late endosomes. *In vitro,* the abundant expression of Syntaxin 7 in B16 melanoma cells increases as they undergo melanogenesis. A SNARE complex between Syntaxin 7 and VAMP7 or VAMP8 may regulate the fusion events that eventually lead to melanogenesis.

REFERENCES

1. Elferink, L.A., et al. 1993. A role for synaptotagmin (p65) in regulated exocytosis. Cell 72: 153-159.
2. Bennett, M.K., et al. 1993. The syntaxin family of vesicular transport receptors. Cell 74: 863-873.
3. Yamaguchi, K. and Akagawa, K. 1994. Exocytosis relating proteins in the nervous system. Neurosci. Res. 20: 289-292.
4. Hayashi, T., et al. 1994. Synaptic vesicle membrane fusion complex: action of clostridial neurotoxins on assembly. EMBO J. 13: 5051-5061.
5. Edelmann, L., et al. 1995. Synaptobrevin binding to synaptophysin: a potential mechanism for controlling the exocytosis fusion machine. EMBO J. 14: 224-231.
6. Lin, R.C. and Scheller, R.H. 1997. Structural organization of the synaptic exocytosis core complex. Neuron 19: 1087-1094.
7. 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.
8. Antonin, W., et al. 2000. A SNARE complex mediating fusion of late endosome defines conserved properties of SNARE structure and function. EMBO J. 19: 6453-6464.

CHROMOSOMAL LOCATION

Genetic locus: STX7 (human) mapping to 6q23.2.

SOURCE

Syntaxin 7 (G-7) is a mouse monoclonal antibody raised against amino acids 88-160 mapping within an internal region of Syntaxin 7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Syntaxin 7 (G-7) is recommended for detection of Syntaxin 7 of human origin by Western Blotting (starting dilution 1:100, 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).

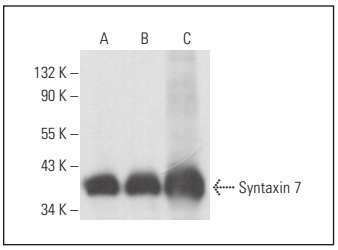
Suitable for use as control antibody for Syntaxin 7 siRNA (h): sc-41334, Syntaxin 7 shRNA Plasmid (h): sc-41334-SH and Syntaxin 7 shRNA (h) Lentiviral Particles: sc-41334-V.

Positive Controls: human heart extract: sc-363763, Daudi cell lysate: sc-2415 or JAR cell lysate: sc-2276.

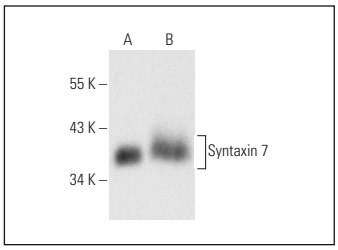
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Syntaxin 7 (G-7): sc-514157. Western blot analysis of Syntaxin 7 expression in JAR (**A**), Hep G2 (**B**) and Daudi (**C**) whole cell lysates.



Syntaxin 7 (G-7): sc-514157. Western blot analysis of Syntaxin 7 expression in JAR whole cell lysate (**A**) and human heart tissue extract (**B**).

SELECT PRODUCT CITATIONS

1. Dingjan, I., et al. 2017. Oxidized phagosomal NOX2 complex is replenished from lysosomes. J. Cell Sci. 130: 1285-1298.
2. Pha, K., et al. 2024. The *Chlamydia* effector IncE employs two short linear motifs to reprogram host vesicle trafficking. Cell Rep. 43: 114624.

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.