SANTA CRUZ BIOTECHNOLOGY, INC.

v-SNARE Vti1a (N-12): sc-160903

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. V-SNARE Vti1a (Vesicle transport through interaction with t-SNAREs homolog 1A), also known as vesicle transport v-SNARE protein Vti1-like 2, is a 203 amino acid protein that forms a SNARE complex with proteins such as VAMP-3, TI-VAMP, Syntaxin 7, Syntaxin 8 and Syntaxin 10. Levels of v-SNARE Vti1a and Glut4 are decreased with Insulin treatment. Knockdown of v-SNARE Vti1a mRNA inhibits adiponectin secretion and Insulin-stimulated deoxyglucose uptake, suggesting that it may regulate Glut4 and Acrp30 trafficking in adipocytes.

REFERENCES

1. Fischer von Mollard, G. and Stevens, T.H. 1998. A human homolog can functionally replace the yeast vesicle-associated SNARE Vti1p in two vesicle transport pathways. J. Biol. Chem. 273: 2624-2630.
2. Bogdanovic, A., et al. 2002. Syntaxin 7, Syntaxin 8, Vti1 and VAMP7 (vesicle-associated membrane protein 7) form an active SNARE complex for early macropinocytic compartment fusion in *Dictyostelium discoideum*. Biochem. J. 368: 29-39.
3. Kreykenbohm, V., et al. 2002. The SNAREs vti1a and vti1b have distinct localization and SNARE complex partners. Eur. J. Cell Biol. 81: 273-280.
4. Bose, A., et al. 2005. The v-SNARE Vti1a regulates Insulin-stimulated glucose transport and Acrp30 secretion in 3T3-L1 adipocytes. J. Biol. Chem. 280: 36946-36951.
5. Wang, Y. and Tang, B.L. 2006. SNAREs in neurons—beyond synaptic vesicle exocytosis. Mol. Membr. Biol. 23: 377-384.
6. Ganley, I.G., et al. 2008. A Syntaxin 10-SNARE complex distinguishes two distinct transport routes from endosomes to the trans-Golgi in human cells. J. Cell Biol. 180: 159-172.
7. Flowerdew, S.E. and Burgoyne, R.D. 2009. A VAMP7/Vti1a SNARE complex distinguishes a non-conventional traffic route to the cell surface used by KChIP1 and Kv4 potassium channels. Biochem. J. 418: 529-540.

CHROMOSOMAL LOCATION

Genetic locus: VTI1A (human) mapping to 10q25.2; Vti1a (mouse) mapping to 19 D2.

SOURCE

v-SNARE Vti1a (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of v-SNARE Vti1a 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-160903 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

v-SNARE Vti1a (N-12) is recommended for detection of v-SNARE Vti1a of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with v-SNARE Vti1p.

v-SNARE Vti1a (N-12) is also recommended for detection of v-SNARE Vti1a in additional species, including equine, canine and avian.

Suitable for use as control antibody for v-SNARE Vti1a siRNA (h): sc-90681, v-SNARE Vti1a siRNA (m): sc-154965, v-SNARE Vti1a shRNA Plasmid (h): sc-90681-SH, v-SNARE Vti1a shRNA Plasmid (m): sc-154965-SH, v-SNARE Vti1a shRNA (h) Lentiviral Particles: sc-90681-V and v-SNARE Vti1a shRNA (m) Lentiviral Particles: sc-154965-V.

Molecular Weight of v-SNARE Vti1a: 29 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.