SANTA CRUZ BIOTECHNOLOGY, INC.

v-SNARE Vti1a (45): sc-136117

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.

CHROMOSOMAL LOCATION

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

SOURCE

v-SNARE Vti1a (45) is a mouse monoclonal antibody raised against amino acids 114-217 of v-SNARE Vti1a of mouse 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

v-SNARE Vti1a (45) is recommended for detection of v-SNARE Vti1a of mouse, rat, human and canine 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

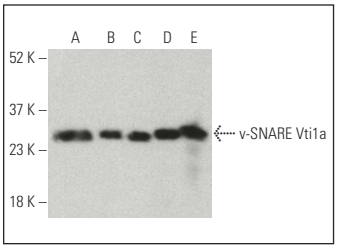
Molecular Weight of v-SNARE Vti1a: 29 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, rat brain extract: sc-2392 or 3T3-L1 cell lysate: sc-2243.

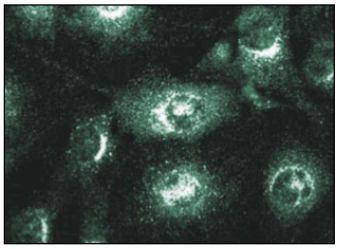
RECOMMENDED SUPPORT REAGENTS

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



v-SNARE Vti1a (45): sc-136117. Western blot analysis of v-SNARE Vti1a expression in WEHI-231 (**A**), 3T3-L1 (**B**), LADMAC (**C**) and HL-60 (**D**) whole cell lysates and rat brain tissue extract (**E**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



v-SNARE Vti1a (45): sc-136117. Immunofluorescence staining of NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Petrini, S., et al. 2013. Monocytes and macrophages as biomarkers for the diagnosis of megalencephalic leukoencephalopathy with subcortical cysts. Mol. Cell. Neurosci. 56: 307-321.
2. Gu, Y., et al. 2019. Mammalian Atg8 proteins regulate lysosome and autolysosome biogenesis through SNAREs. EMBO J. 38: e101994.

RESEARCH USE

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