

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 macropinosytic 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 IgG₁ 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.

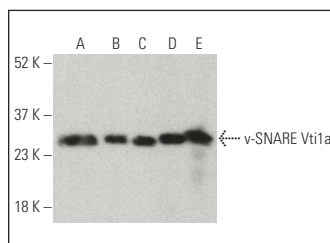
Molecular Weight of v-SNARE Vti1a: 29 kDa.

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

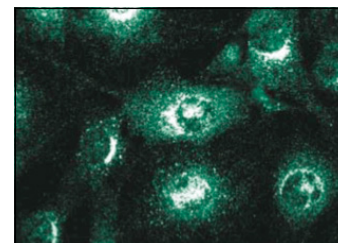
RECOMMENDED SUPPORT REAGENTS

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. 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.

PROTOCOLS

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