SANTA CRUZ BIOTECHNOLOGY, INC.

calsyntenin-1 (T-17): sc-133315

BACKGROUND

Members of the calsyntenin protein family are localized to the post-synaptic membrane of exicitatory central nervous system (CNS) synapses. Calsyntenin-1, also known as CSTN1, PIK3CD, Alzheimer-related cadherin-like protein, non-classical cadherin XB31α, KIAA0911, ALC-α, alcα1, alcα2 or FLJ32258, is a 981 amino acid single-pass type I membrane protein that localizes to the membrane of endoplasmic reticulum, Golgi apparatus, cell projections and postsynaptic cells. Expressed in brain, calsyntenin-1 is also found at lower levels in placenta, skeletal muscle, heart and kidney. Calsyntenin-1 binds synaptic Ca^{2+} with its cytoplasmic domain and plays a role in extracellular proteolysis. Calsyntenin-1 is also known to form a complex with X11β and APP to suppress the metabolic cleavage of APP, and docks vesicular cargo to KLC1. Calsyntenin-1 may be related to the development or progression of Alzheimer's disease, and two calsyntenin-1 isoforms are produced as a result of alternative splicing events.

REFERENCES

1. Vogt, L., et al. 2001. Calsyntenin-1, a proteolytically processed postsynaptic membrane protein with a cytoplasmic calcium-binding domain. Mol. Cell. Neurosci. 17: 151-166.
2. Hintsch, G., et al. 2002. The calsyntenins—a family of postsynaptic membrane proteins with distinct neuronal expression patterns. Mol. Cell. Neurosci. 21: 393-409.
3. Araki, Y., et al. 2003. Novel cadherin-related membrane proteins, Alcadeins, enhance the X11-like protein-mediated stabilization of amyloid β-protein precursor metabolism. J. Biol. Chem. 278: 49448-49458.
4. Araki, Y., et al. 2004. Coordinated metabolism of Alcadein and amyloid β-protein precursor regulates FE65-dependent gene transactivation. J. Biol. Chem. 279: 24343-24354.
5. Konecna, A., et al. 2006. Calsyntenin-1 docks vesicular cargo to kinesin-1. Mol. Biol. Cell 17: 3651-3663.
6. Araki, Y., et al. 2007. The novel cargo Alcadein induces vesicle association of kinesin-1 motor components and activates axonal transport. EMBO J. 26: 1475-1486.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611321. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CLSTN1 (human) mapping to 1p36.22; Clstn1 (mouse) mapping to 4 E2.

SOURCE

calsyntenin-1 (T-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an extracellular domain of calsyntenin-1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133315 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

calsyntenin-1 (T-17) is recommended for detection of calsyntenin-1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with calsyntenin-2 or calsyntenin-3.

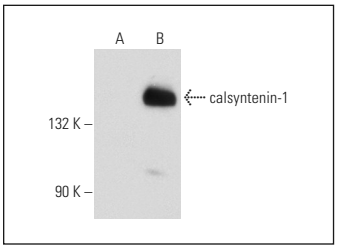
calsyntenin-1 (T-17) is also recommended for detection of calsyntenin-1 isoforms 1 and 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for calsyntenin-1 siRNA (h): sc-88549, calsyntenin-1 siRNA (m): sc-141985, calsyntenin-1 shRNA Plasmid (h): sc-88549-SH, calsyntenin-1 shRNA Plasmid (m): sc-141985-SH, calsyntenin-1 shRNA (h) Lentiviral Particles: sc-88549-V and calsyntenin-1 shRNA (m) Lentiviral Particles: sc-141985-V.

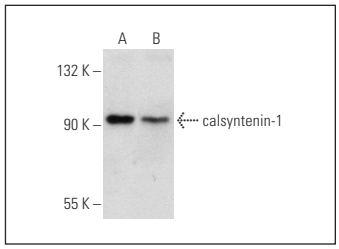
Molecular Weight of calsyntenin-1: 110 kDa.

Positive Controls: calsyntenin-1 (h): 293T Lysate: sc-176672, SK-MEL-24 whole cell lysate: sc-364259 or T24 cell lysate: sc-2292.

DATA



calsyntenin-1 (T-17): sc-133315. Western blot analysis of calsyntenin-1 expression in non-transfected: sc-117752 (**A**) and human calsyntenin-1 transfected: sc-176672 (**B**) 293T whole cell lysates.



calsyntenin-1 (T-17): sc-133315. Western blot analysis of calsyntenin-1 expression in SK-MEL-24 (**A**) and T24 (**B**) whole cell lysates.

STORAGE

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

PROTOCOLS

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