

calsyntenin-1 (N-12): sc-133314

BACKGROUND

Members of the calsyntenin protein family are localized to the post-synaptic membrane of excitatory central nervous system (CNS) synapses. Calsyntenin-1, also known as CSTN1, PIK3CD, Alzheimer-related cadherin-like protein, non-classical cadherin XB31 α , KIAA0911, ALC- α , alc α 1, alc α 2 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 Ca²⁺ with its cytoplasmic domain and plays a role in extracellular proteolysis. Calsyntenin-1 is also known to form a complex with X11 β 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.
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CHROMOSOMAL LOCATION

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

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.

SOURCE

calsyntenin-1 (N-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of calsyntenin-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-133314 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

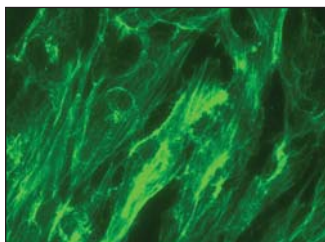
APPLICATIONS

calsyntenin-1 (N-12) 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), 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.

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.

DATA



calsyntenin-1 (N-12): sc-133314. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.

RESEARCH USE

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