

# calsyntenin-3 (E-14): sc-133317

## BACKGROUND

Members of the calsyntenin protein family localize to the post-synaptic membrane of excitatory central nervous system (CNS) synapses. Calsyntenin-3, also known as CSTN3, alc $\beta$  or CLSTN3, is a 956 amino acid single-pass type I membrane protein that localizes to the membrane of the endoplasmic reticulum and the Golgi apparatus. Expressed predominantly in brain and kidney, calsyntenin-3 contains two cadherin-like repeats in its N-terminal extracellular region and binds synaptic calcium with its cytoplasmic domain, suggesting that calsyntenin-3 plays a role in the modulation of calcium-mediated postsynaptic signals. Under normal physiological conditions, calsyntenin-3 is proteolytically processed in an event in which primary  $\zeta$ -cleavage generates a short C-terminal transmembrane fragment and a long extracellular N-terminal domain. The tripartite complex, which consist of calsyntenin-3, X11 $\beta$  and Amyloid A4, inhibits intracellular Amyloid A4 maturation by stabilizing Amyloid A4 metabolism and enhancing X11 $\beta$ -mediated suppression of  $\beta$ -Amyloid.

## 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 post-synaptic 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  $\beta$ -protein precursor metabolism. *J. Biol. Chem.* 278: 49448-49458.
4. Araki, Y., et al. 2004. Coordinated metabolism of alcadin and amyloid  $\beta$ -protein precursor regulates FE65-dependent gene transactivation. *J. Biol. Chem.* 279: 24343-24354.
5. Suzuki, T., et al. 2006. Trafficking of Alzheimer's disease-related membrane proteins and its participation in disease pathogenesis. *J. Biochem.* 139: 949-955.
6. Cheng, X.R., et al. 2006. The family of calsyntenins: learning and memory related genes. *Sheng Li Ke Xue Jin Zhan* 37: 205-210.

## CHROMOSOMAL LOCATION

Genetic locus: CLSTN3 (human) mapping to 12p13.31; Clstn3 (mouse) mapping to 6 F2.

## SOURCE

calsyntenin-3 (E-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of calsyntenin-3 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-133317 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

calsyntenin-3 (E-14) is recommended for detection of calsyntenin-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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-1 or calsyntenin-2.

calsyntenin-3 (E-14) is also recommended for detection of calsyntenin-3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for calsyntenin-3 siRNA (h): sc-95768, calsyntenin-3 siRNA (m): sc-141987, calsyntenin-3 shRNA Plasmid (h): sc-95768-SH, calsyntenin-3 shRNA Plasmid (m): sc-141987-SH, calsyntenin-3 shRNA (h) Lentiviral Particles: sc-95768-V and calsyntenin-3 shRNA (m) Lentiviral Particles: sc-141987-V.

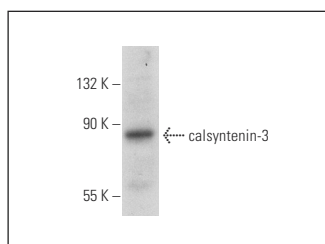
Molecular Weight of calsyntenin-3: 106 kDa.

Positive Controls: mouse brain extract: sc-2253.

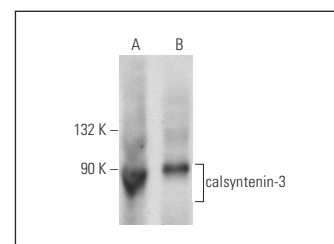
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



calsyntenin-3 (E-14): sc-133317. Western blot analysis of calsyntenin-3 expression in mouse pancreas tissue extract.



calsyntenin-3 (E-14): sc-133317. Western blot analysis of calsyntenin-3 expression in mouse brain (A) and mouse prostate (B) tissue extracts.

## 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.