

nicastrin (N-19): sc-14369

BACKGROUND

The Presenilin 1 (PS1) and Presenilin 2 (PS2) transmembrane proteins are components of high molecular weight complexes. These complexes mediate proteolytic cleavage within the transmembrane domain of several proteins, including the β -Amyloid precursor protein (β APP) and Notch. Missense mutations in the genes encoding the presenilin proteins increase the proteolysis of β APP and results in the overproduction of the neurotoxic β -Amyloid peptide, which results in a condition associated with Familial Alzheimer's disease (FAD). A novel component of the presenilin complex, nicastrin, is a type I transmembrane glycoprotein that is involved in mediating Notch/GLP-1 signaling. In addition, nicastrin contributes to the processing of β APP, which makes nicastrin an attractive potential target for modulating the production of β -Amyloid in patients with Alzheimer's disease. Originally purified from immunoprecipitated PS1 complexes from HEK293 cells, nicastrin contains hydrophilic amino and carboxy-terminal domains, a short, hydrophobic transmembrane domain and potential N-myristoylation and phosphorylation sites.

CHROMOSOMAL LOCATION

Genetic locus: NCSTN (human) mapping to 1q23.2; Ncstn (mouse) mapping to 1 H3.

SOURCE

nicastrin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of nicastrin of human origin.

PRODUCT

Each vial contains 200 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-14369 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nicastrin (N-19) is recommended for detection of nicastrin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

nicastrin (N-19) is also recommended for detection of nicastrin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for nicastrin siRNA (h): sc-36063, nicastrin siRNA (m): sc-36064, nicastrin shRNA Plasmid (h): sc-36063-SH, nicastrin shRNA Plasmid (m): sc-36064-SH, nicastrin shRNA (h) Lentiviral Particles: sc-36063-V and nicastrin shRNA (m) Lentiviral Particles: sc-36064-V.

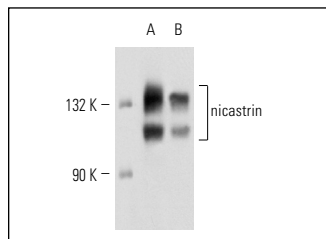
Molecular Weight of nicastrin: 110/150 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y cell lysate: sc-3812 or H4 cell lysate: sc-2408.

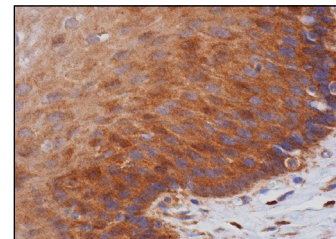
STORAGE

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

DATA



nicastrin (N-19): sc-14369. Western blot analysis of nicastrin expression in HeLa (A) and H4 (B) whole cell lysates.



nicastrin (N-19): sc-14369. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Sato, C., et al. 2006. Structure of the catalytic pore of γ -secretase probed by the accessibility of substituted cysteines. *J. Neurosci.* 26: 12081-12088.
2. Fuso, A., et al. 2007. γ -secretase is differentially modulated by alterations of homocysteine cycle in neuroblastoma and glioblastoma cells. *J. Alzheimers Dis.* 11: 275-290.
3. Fuso, A., et al. 2008. B-vitamin deprivation induces hyperhomocysteinemia and brain S-adenosylhomocysteine, depletes brain S-adenosylmethionine, and enhances PS1 and BACE expression and amyloid- β deposition in mice. *Mol. Cell. Neurosci.* 37: 731-746.
4. Quiroz-Baez, R., et al. 2009. Oxidative stress promotes JNK-dependent amyloidogenic processing of normally expressed human APP by differential modification of α -, β - and γ -secretase expression. *Neurochem. Int.* 55: 662-670.
5. Klinakis, A., et al. 2011. A novel tumour-suppressor function for the Notch pathway in myeloid leukaemia. *Nature* 473: 230-233.
6. Sutinen, E.M., et al. 2012. Pro-inflammatory interleukin-18 increases Alzheimer's disease-associated amyloid- β production in human neuron-like cells. *J. Neuroinflammation* 9: 199.

RESEARCH USE

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

MONOS
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Try **nicastrin (B-3): sc-376513** or **nicastrin (F-3): sc-377214**, our highly recommended monoclonal alternatives to nicastrin (N-19).