

# nicastrin (H-300): sc-25648

## 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  $\beta$ -Amyloid precursor protein ( $\beta$ APP) and notch. Missense mutations in the genes encoding the presenilin proteins increase the proteolysis of  $\beta$ APP and results in the overproduction of the neurotoxic  $\beta$ -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  $\beta$ APP, which makes nicastrin an attractive potential target for modulating the production of  $\beta$ -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 (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 of nicastrin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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

nicastrin (H-300) 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  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (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 (H-300) is also recommended for detection of nicastrin in additional species, including equine, bovine and porcine.

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.

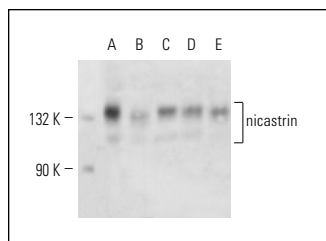
Molecular Weight of nicastrin: 110/150 kDa.

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

## 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



nicastrin (H-300): sc-25648. Western blot analysis of nicastrin expression in HeLa (A), SH-SY5Y (B), H4 (C), SK-N-SH (D) and IMR-32 (E) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Nadler, Y., et al. 2008. Increased expression of the  $\gamma$ -secretase components presenilin 1 and nicastrin in activated astrocytes and microglia following traumatic brain injury. *Glia* 56: 552-567.
- Tanveer, R., et al. 2012. The endocannabinoid, anandamide, augments Notch-1 signaling in cultured cortical neurons exposed to amyloid- $\beta$  and in the cortex of aged rats. *J. Biol. Chem.* 287: 34709-34721.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **nicastrin (B-3): sc-376513** or **nicastrin (F-3): sc-377214**, our highly recommended monoclonal alternatives to nicastrin (H-300).