SANTA CRUZ BIOTECHNOLOGY, INC.

Presenilin 1 (H-70): sc-7860

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A novel protein, designated Presenilin 1 (also designated S182) and mapping to the AD3 locus of chromosome 14q24.2, has been described. Mutations in the gene encoding Presenilin 1 have been found in families suffering from early-onset Alzheimer's disease. A highly related protein, designated Presenilin 2, shares 80% amino acid sequence identity with Presenilin 1. Presenilin 1 and Presenilin 2 have similar structures and represent novel members of the seven pass-transmembrane receptor superfamily. Point mutations in the gene encoding Presenilin 2 have been found in Volga German families who suffer from an inherited form of early-onset Alzheimer's disease. Whether these proteins function as ligand-gated ion channels or G protein-coupled receptors has yet to be resolved. ALG-3, the mouse homolog of human Presenilin 2, has been cloned from the mouse liver cDNA library.

CHROMOSOMAL LOCATION

Genetic locus: PSEN1 (human) mapping to 14q24.2; Psen1 (mouse) mapping to 12 D1.

SOURCE

Presenilin 1 (H-70) is a rabbit polyclonal antibody raised against amino acids 1-70 of Presenilin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Presenilin 1 (H-70) is recommended for detection of Presenilin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for Presenilin 1 siRNA (h): sc-36312, Presenilin 1 siRNA (m): sc-36313, Presenilin 1 shRNA Plasmid (h): sc-36312-SH, Presenilin 1 shRNA Plasmid (m): sc-36313-SH, Presenilin 1 shRNA (h) Lentiviral Particles: sc-36312-V and Presenilin 1 shRNA (m) Lentiviral Particles: sc-36313-V.

Molecular Weight of Presenilin 1 holoprotein: 47 kDa.

Molecular Weight of Presenilin 1 aggregated: 50-250 kDa.

Positive Controls: Presenilin 1 (m2): 293T Lysate: sc-122767, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

RESEARCH USE

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

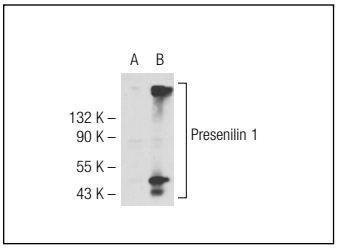
PROTOCOLS

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

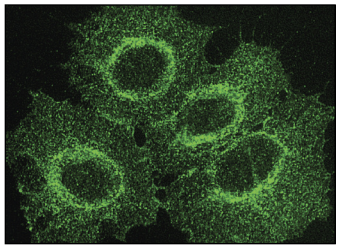
STORAGE

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

DATA



Presenilin 1 (H-70): sc-7860. Western blot analysis of Presenilin 1 expression in non-transfected: sc-117752 (**A**) and mouse Presenilin 1 transfected: sc-122767 (**B**) 293T whole cell lysates.



Presenilin 1 (H-70): sc-7860. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Ni, C.Y., et al. 2003. Role of the ErbB-4 carboxyl terminus in γ-secretase cleavage. J. Biol. Chem. 278: 4561-4565.
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3. Zou, K., et al. 2008. Novel role of presenilins in maturation and transport of integrin β 1. Biochemistry 47: 3370-3378.
4. Ma, L., et al. 2009. Increase in p53 protein levels by presenilin 1 gene mutations and its inhibition by secretase inhibitors. J. Alzheimers Dis. 16: 565-575.
5. Kenchappa, R.S., et al. 2010. p75 neurotrophin receptor-mediated apoptosis in sympathetic neurons involves a biphasic activation of JNK and up-regulation of tumor necrosis factor-α-converting enzyme/ADAM17. J. Biol. Chem. 285: 20358-20368.
6. Grimm, M.O., et al. 2011. Docosahexaenoic acid reduces amyloid β production via multiple, pleiotropic mechanism. J. Biol. Chem. 286: 14028-14039.
7. Nogalska, A., et al. 2012. Activation of the γ-secretase complex and presence of γ-secretase-activating protein may contribute to Aβ42 production in sporadic inclusion-body myositis muscle fibers. Neurobiol. Dis. 48: 141-149.
8. 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.