

Presenilin 2 (C-20): sc-1456

BACKGROUND

A novel protein, designated Presenilin 1 (also designated S182) and mapping to the AD3 locus of chromosome 14q24.3, has been described. Mutations in PSEN1, the gene encoding Presenilin 1, have been found in families suffering from early-onset Alzheimer's disease. A highly related protein, designated Presenilin 2 (also designated STM2), shares 80% amino acid sequence identity with Presenilin 1. Presenilin 1 and 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: PSEN2 (human) mapping to 14q2.13; Psen2 (mouse) mapping to 1 H4.

SOURCE

Presenilin 2 (C-20) is available as either goat (sc-1456) or rabbit (sc-1456-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of Presenilin 2 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.

Blocking peptide available for competition studies, sc-1456 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Presenilin 2 (C-20) is recommended for detection of Presenilin 2 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), 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).

Presenilin 2 (C-20) is also recommended for detection of Presenilin 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Presenilin 2 siRNA (h): sc-36314, Presenilin 2 siRNA (m): sc-36315, Presenilin 2 shRNA Plasmid (h): sc-36314-SH, Presenilin 2 shRNA Plasmid (m): sc-36315-SH, Presenilin 2 shRNA (h) Lentiviral Particles: sc-36314-V and Presenilin 2 shRNA (m) Lentiviral Particles: sc-36315-V.

Molecular Weight of Presenilin 2 holoprotein: 50 kDa.

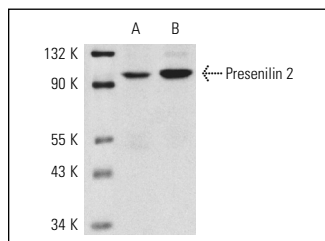
Molecular Weight of aggregated Presenilin 2: 50-250 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or rat brain extract: sc-2392.

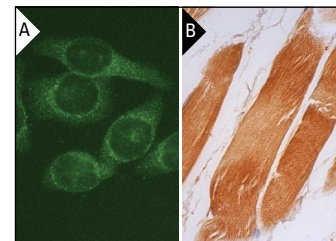
STORAGE

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

DATA



Presenilin 2 (C-20): sc-1456. Western blot analysis of aggregated Presenilin 2 expression in IMR-32 (A) and HeLa (B) whole cell lysates.



Presenilin 2 (C-20): sc-1456. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes (B).

SELECT PRODUCT CITATIONS

- Dewachter, I., et al. 2002. Neuronal deficiency of Presenilin 1 inhibits amyloid plaque formation and corrects hippocampal long-term potentiation but not a cognitive defect of amyloid precursor protein [V717I] transgenic mice. *J. Neurosci.* 22: 3445-3453.
- Panegyres, P.K., et al. 2005. Presenilin immunoreactivity in Alzheimer's disease. *Eur. J. Neurol.* 12: 700-706.
- 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.
- 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.
- Bossers, K., et al. 2010. Concerted changes in transcripts in the prefrontal cortex precede neuropathology in Alzheimer's disease. *Brain* 133: 3699-3723.
- Wang, X.L., et al. 2014. *Helicobacter pylori* filtrate impairs spatial learning and memory in rats and increases β -amyloid by enhancing expression of presenilin-2. *Front. Aging Neurosci.* 6: 66.

RESEARCH USE

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



Try **Presenilin 2 (B-7): sc-393758**, our highly recommended monoclonal alternative to Presenilin 2 (C-20).