

Presenilin 1 (H-5): sc-365495

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 (also designated STM2), 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.

REFERENCES

1. Bird, T.D., et al. 1988. Familial Alzheimer's disease in American descendants of the Volga Germans: probable genetic founder effect. *Ann. Neurol.* 23: 25-31.
2. Sherrington, R., et al. 1995. Cloning of a gene bearing missense mutations in early-onset familial Alzheimer's disease. *Nature* 375: 754-760.
3. Alzheimer's Disease Collaborative Group. 1995. The structure of the Presenilin 1 (S182) gene and identification of six novel mutations in early onset AD families. *Nat. Genet.* 11: 219-222.

CHROMOSOMAL LOCATION

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

SOURCE

Presenilin 1 (H-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 442-467 at the C-terminus of Presenilin 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Presenilin 1 (H-5) is available conjugated to agarose (sc-365495 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365495 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365495 PE), fluorescein (sc-365495 FITC), Alexa Fluor® 488 (sc-365495 AF488), Alexa Fluor® 546 (sc-365495 AF546), Alexa Fluor® 594 (sc-365495 AF594) or Alexa Fluor® 647 (sc-365495 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365495 AF680) or Alexa Fluor® 790 (sc-365495 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365495 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Presenilin 1 (H-5) 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).

Presenilin 1 (H-5) is also recommended for detection of Presenilin 1 in additional species, including canine, bovine and porcine.

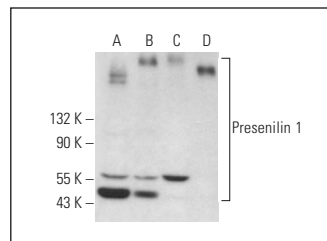
Suitable for use as control antibody for Presenilin 1 siRNA (h): sc-36312, Presenilin 1 siRNA (m): sc-36313, Presenilin 1 shRNA Plasmid (h): sc-36312-SH, Presenilin 1 shRNA Plasmid (m): sc-36313-SH, Presenilin 1 shRNA (h) Lentiviral Particles: sc-36312-V and Presenilin 1 shRNA (m) Lentiviral Particles: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

Molecular Weight of holoprotein Presenilin 1: 47 kDa.

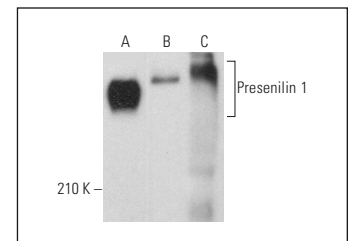
Molecular Weight of aggregated Presenilin 1: 50-250 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, mouse brain extract: sc-2253 or 3T3-L1 cell lysate: sc-2243.

DATA



Presenilin 1 (H-5): sc-365495. Western blot analysis of Presenilin 1 expression in PC-12 (A), NIH/3T3 (B), IMR-32 (C) and T98G (D) whole cell lysates.



Presenilin 1 (H-5): sc-365495. Western blot analysis of Presenilin 1 expression in PC-12 (A) and 3T3-L1 (B) whole cell lysates and mouse brain tissue extract (C).

SELECT PRODUCT CITATIONS

1. Qi, X.L., et al. 2013. Preventing expression of the nicotinic receptor subunit $\alpha 7$ in SH-SY5Y cells with interference RNA indicates that this receptor may protect against the neurotoxicity of A β . *Neurochem. Res.* 38: 943-950.
2. Ren, J., et al. 2019. The expression of the nicotinic acetylcholine receptor $\alpha 3$ subunit in the brains of patients with Alzheimer's disease and its effects on α - and γ -secretases and Notch signal transduction in SH-SY5Y cells. *Int. J. Clin. Exp. Pathol.* 12: 3644-3652.

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.