SANTA CRUZ BIOTECHNOLOGY, INC.

Presenilin 1 (D-10): sc-365450

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 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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

Presenilin 1 (D-10) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Presenilin 1 (D-10) is available conjugated to agarose (sc-365450 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365450 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365450 PE), fluorescein (sc-365450 FITC), Alexa Fluor® 488 (sc-365450 AF488), Alexa Fluor® 546 (sc-365450 AF546), Alexa Fluor® 594 (sc-365450 AF594) or Alexa Fluor® 647 (sc-365450 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365450 AF680) or Alexa Fluor® 790 (sc-365450 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365450 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Presenilin 1 (D-10) is recommended for detection of Presenilin 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (D-10) is also recommended for detection of Presenilin 1 in additional species, including canine, bovine and porcine.

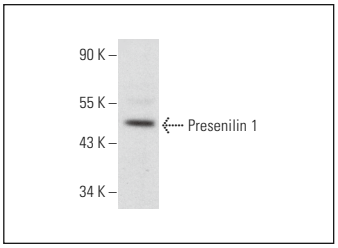
Suitable for use as control antibody for Presenilin 1 siRNA (h): sc-36312, Presenilin 1 siRNA (m): sc-36313, Presenilin 1 shRNA Plasmid (h): sc-36312-SH, Presenilin 1 shRNA Plasmid (m): sc-36313-SH, Presenilin 1 shRNA (h) Lentiviral Particles: sc-36312-V and Presenilin 1 shRNA (m) Lentiviral Particles: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

Molecular Weight of holoprotein Presenilin 1: 47 kDa.

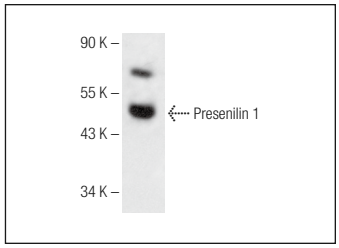
Molecular Weight of aggregated Presenilin 1: 50-250 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, EOC 20 whole cell lysate: sc-364187 or rat brain extract: sc-2392.

DATA



Presenilin 1 (D-10): sc-365450. Western blot analysis of Presenilin 1 expression in EOC 20 whole cell lysate.



Presenilin 1 (D-10): sc-365450. Western blot analysis of Presenilin 1 expression in PC-12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Choi, G.E., et al. 2017. Membrane-associated effects of glucocorticoid on BACE1 upregulation and Aβ generation: involvement of lipid raft-mediated CREB activation. J. Neurosci. 37: 8459-8476.
2. Li, W.H., et al. 2021. Deletion of Dcf1 reduces Amyloid-β aggregation and mitigates memory deficits. J. Alzheimers Dis. 81: 1181-1194.
3. Fu, Y., et al. 2022. Sex-specific lipid dysregulation in the Abca7 knockout mouse brain. Brain Commun. 4: fcac120.
4. Choi, G.E., et al. 2023. Glucocorticoid enhances presenilin1-dependent Aβ production at ER's mitochondrial-associated membrane by downregulating Rer1 in neuronal cells. Redox Biol. 65: 102821.
5. Li, X., et al. 2024. Preventive effect of Tyr-Pro, a blood-brain barrier transportable dipeptide, on memory impairment in SAMP8 mice. NPJ Sci. Food 8: 114.

RESEARCH USE

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