



Rabbit polyclonal antibody to Presenilin 2 loop region: IgG

Catalogue No.:	R-1681-500
Description:	Autosomal dominant mutations in presenilin 2 are the second major cause of early-onset familial Alzheimer's disease. Presenilin 2 is a multi-transmembrane protein which undergoes endoproteolysis to form an N-terminal fragment of about 29 kDa and C-terminal fragment of about 22 kDa. Presenilin 2 forms the catalytic core of the gamma-secretase complex which cleaves type 1 transmembrane proteins including the amyloid precursor protein to generate the C-terminus of the amyloid beta peptide.
Batch No.:	See product label
Unit size:	500 ug
Antigen:	A synthetic peptide (KLDPSSQGALQLPYDPEMEEDSYDSFGEP-C) corresponding to human PS1 [306-334] in the loop region conjugated via additional C-terminal Cys to Diphtheria toxoid.
Antibody Type:	Polyclonal
Other Names:	AD3LP, AD5, E5-1, STM-2
Produced in:	Rabbit
Applications:	WB and IP. Suggested dilution of 1:1,000 is recommended for WB. Full length presenilin 2 (448 aa) has relative MW of about 45 kDa, with this antibody most commonly detected as cleaved CTF of 22 kDa with this antibody. Human or mouse brain samples commonly prepared with reducing agent (50mM DTT), urea (2.3 M), SDS (1.5%) in 62.5 mM Tris-HCL pH 6.8 sample buffer (without boiling) heating to 50 C for 15 min. The suggested dilution for IP is 1:100 . Biosensis recommends that the optimal working dilution should be determined by the end user.
Specificity:	Confirmed by Western blot using mouse and human brain and knock down of presenilin 2 in vitro using siRNA see ref 6 below. Not reactive with presenilin 1.
Species Against:	Human; mouse; rat; guinea pig. Presenilin proteins are highly conserved, so cross-reactivity with other species is expected.
Form:	Lyophilized from PBS, pH 7.4. Contains no preservative.
Reconstitution:	Reconstitute in 500 uL of sterile water. Centrifuge to remove any insoluble material.
Storage:	Short term storage at 2-8C for one week. At -20C as an undiluted liquid for up to 12 months.
Expiry Date:	12 months after purchase
References:	Culvenor, J.G., Ilaya, N.T., Ryan, M.T., Canterford, L., Hoke, D., Williamson, N.A., McLean, C.A., Masters, C.L., and Evin, G. (2004) Characterization of Presenilin complex from mouse and human brain using Blue Native gel electrophoresis reveals high expression in embryonic brain and minimal change in complex mobility with Presenilin mutations. <i>Eur. J. Biochem.</i> 271, 375-385. Ilaya, N.T., Evin, G., Masters, C.L., and Culvenor, J.G. (2004) Nicastrin expression in mouse peripheral tissues is not co-ordinated with Presenilin and is high in muscle. <i>J. Neurochem.</i> 91, 230-237.

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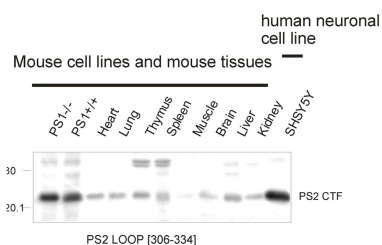
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Evin, G., Smith, M.J., Tziotis, A., McLean, C., Canterford, L., Sharples, R.A., Cappai, R., Weidemann, A., Beyreuther, K., Cotton, R.G.H., Masters, C.L., and Culvenor, J.G. (2002) Alternative transcripts of Presenilin-1 associated with Frontotemporal Dementia. *NeuroReport* 13, 917-921.

Evin, G., Sharples, R.A., Weidemann, A., Reinhard, F.B.M., Carbone, V., Culvenor, J.G., Holsinger, R.M.D., Sernee, M.F., Beyreuther, K., and Masters, C.L. (2001) Aspartyl protease inhibitor pepstatin binds to the presenilins of Alzheimer's disease. *Biochem.* 40, 8359-8368.

6. Greenough, M.A., Volitakis, I, Li, Q.-X., Laughton, K., Evin, G., Ho, M., Dalziel, A.H., Camakaris, J, Bush, A.I. (2011) Presenilins promote the cellular uptake of copper and zinc and maintain copper chaperone of SOD1-dependent copper/zinc superoxide dismutase activity. *J. Biol Chem.* 286, 9776-86.



Western Immunoblotting of mouse and human Presenilin 2 protein in mouse cell line extracts, various mouse tissues and a human cell line. Membrane proteins were prepared and loaded as 20 μ g protein per lane. Crude anti-PS2 loop antibody used at 1:1000.

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