10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.622.0609

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP6231a

Specification

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - Product Information

Primary Accession P49768

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - Additional Information

Gene ID 5663

Other Names
Presenilin-1, PS-1, 3423-, Protein S182, Presenilin-1 NTF subunit, Presenilin-1 CTF subunit, Presenilin-1 CTF12, PS1-CTF12, PSEN1, AD3, PS1, PSNL1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP6231a was selected from the C-term region of human PSEN1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - Protein Information

Name PSEN1

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - Background

Alzheimer's disease (AD) patients with an inherited form of the disease carry mutations in the presenilin proteins (PSEN1; PSEN2) or the amyloid precursor protein (APP). These disease-linked mutations result in increased production of the longer form of amyloid-beta (main component of amyloid deposits found in AD brains). Presenilins are postulated to regulate APP processing through their effects on gamma-secretase, an enzyme that cleaves APP. Also, it is thought that the presenilins are involved in the cleavage of the Notch receptor, such that they either directly regulate gamma-secretase activity or themselves are protease enzymes.

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - References

Marambaud, P., et al., Cell 114(5):635-645 (2003).Kim, S.H., et al., J. Biol. Chem. 278(36):33992-34002 (2003).Miklossy, J., et al., Neurobiol. Aging 24(5):655-662 (2003).Cai, D., et al., J. Biol. Chem. 278(5):3446-3454 (2003).Godin, C., et al., Neuroreport 14(12):1613-1616 (2003).

Synonyms AD3, PS1, PSNL1

Function
Catalytic subunit of the gamma-secretase complex, an endoprotease complex that catalyzes the intramembrane cleavage of integral membrane proteins such as Notch receptors and APP (amyloid- beta precursor protein) (PubMed:15274632, PubMed:10545183, PubMed:10593990, PubMed:10206644, PubMed:10899933, PubMed:10811883, PubMed:12679784, PubMed:12740439, PubMed:25043039, PubMed:26280335, PubMed:30598546, PubMed:30630874, PubMed:28269784, PubMed:20460383). Requires the presence of the other members of the gamma-secretase complex for protease activity (PubMed:15274632, PubMed:<a href="http://www.uniprot.org/citations/25043039"

target="_blank">25043039,
PubMed:<a href="http://www.uniprot.org/citations/26280335"
target="_blank">26280335,
PubMed:<a href="http://www.uniprot.org/citations/30598546"
target="_blank">30598546,
PubMed:<a href="http://www.uniprot.org/citations/30630874"
target="_blank">30630874). Plays a role in Notch and Wnt signaling cascades and regulation of downstream processes via its role in processing key regulatory proteins, and by regulating cytosolic CTNNB1 levels (PubMed:<a href="http://www.uniprot.org/citations/9738936"
target="_blank">9738936,
PubMed:<a href="http://www.uniprot.org/citations/10593990"
target="_blank">10593990,
PubMed:<a href="http://www.uniprot.org/citations/10899933"
target="_blank">10899933,
PubMed:<a href="http://www.uniprot.org/citations/10811883"
target="_blank">10811883). Stimulates cell-cell adhesion via its interaction with CDH1; this stabilizes the complexes between CDH1 (E-cadherin) and its interaction partners CTNNB1 (beta-catenin), CTNND1 and JUP (gamma-catenin) (PubMed:<a href="http://www.uniprot.org/citations/11953314"
target="_blank">11953314). Under conditions of apoptosis or calcium influx, cleaves CDH1 (PubMed:<a href="http://www.uniprot.org/citations/11953314"
target="_blank">11953314). This promotes the disassembly of the complexes between CDH1 and CTNND1, JUP and CTNNB1, increases the pool of cytoplasmic CTNNB1, and thereby negatively regulates Wnt signaling (PubMed:<a href="http://www.uniprot.org/citations/9738936"
target="_blank">9738936,
PubMed:<a href="http://www.uniprot.org/citations/11953314"
target="_blank">11953314). Required for normal embryonic brain and skeleton development, and for normal angiogenesis (By similarity). Mediates the proteolytic cleavage of EphB2/CTF1 into EphB2/CTF2 (PubMed:<a href="http://www.uniprot.org/citations/17428795"
target="_blank">17428795,
PubMed:<a href="http://www.uniprot.org/citations/28269784"

target="_blank">28269784). The holoprotein functions as a calcium-leak channel that allows the passive movement of calcium from endoplasmic reticulum to cytosol and is therefore involved in calcium homeostasis (PubMed:25394380, PubMed:16959576). Involved in the regulation of neurite outgrowth (PubMed:15004326, PubMed:20460383). Is a regulator of presynaptic facilitation, spike transmission and synaptic vesicles replenishment in a process that depends on gamma-secretase activity. It acts through the control of SYT7 presynaptic expression (By similarity).

Cellular Location
Endoplasmic reticulum. Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Cytoplasmic granule. Cell membrane; Multi-pass membrane protein. Cell projection, growth cone. Early endosome. Early endosome membrane; Multi-pass membrane protein. Cell projection, neuron projection. Cell projection, axon {ECO:0000250|UniProtKB:Q4JIM4}. Cell junction, synapse {ECO:0000250|UniProtKB:Q4JIM4}. Note=Translocates with bound NOTCH1 from the endoplasmic reticulum and/or Golgi to the cell surface (PubMed:10593990). Colocalizes with CDH1/2 at sites of cell-cell contact. Colocalizes with CTNNB1 in the endoplasmic reticulum and the proximity of the plasma membrane (PubMed:9738936). Also present in azurophil granules of neutrophils (PubMed:11987239). Colocalizes with UBQLN1 in the cell membrane and in cytoplasmic juxtanuclear structures called aggresomes (PubMed:21143716).

Tissue Location
Detected in azurophile granules in neutrophils and in platelet cytoplasmic

granules (at protein level) (PubMed:11987239) Expressed in a wide range of tissues including various regions of the brain, liver, spleen and lymph nodes (PubMed:7596406, PubMed:8641442, PubMed:8574969).

Presenilin 1 (PSEN1) Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides