Presenilin 1 (349-361)
Synthetic Peptide
Catalog # SP2742b

Specification

Presenilin 1 (349-361) - Product Information

Primary Accession   P49769
Other Accession   Q8HXW5, Q5R780, P49768, P97887
Sequence   NH2-GPHRSTPESRAAV-COOH

Presenilin 1 (349-361) - Additional Information

Other Names
Presenilin-1, PS-1, 3423-, Protein S182, Presenilin-1 NTF subunit, Presenilin-1 CTF subunit, Presenilin-1 CTF12, PS1-CTF12, Psen1, Ad3h, Psnl1

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 (349-361) - Protein Information

Name Psen1

Synonyms Ad3h, 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). Requires the presence of the other members of the gamma-secretase complex for protease activity (By similarity). 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:10421573, PubMed:11517342). 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:11226248). Under conditions of apoptosis or calcium influx, cleaves CDH1 (PubMed: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:11226248). Required for normal embryonic brain and skeleton development, and for normal angiogenesis (PubMed:9160754, PubMed:10421573, PubMed:12834865). Mediates the proteolytic cleavage of EphB2/CTF1 into EphB2/CTF2 (PubMed:17428795). The holoprotein functions as a calcium-leak channel that allows the passive movement of calcium from endoplasmic reticulum to cytosol and is involved in calcium homeostasis (PubMed:16959576). Involved in the regulation of neurite outgrowth (By similarity). 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 (PubMed:30429473).

Cellular Location
Endoplasmic reticulum {ECO:0000250|UniProtKB:P49768}. Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P49768}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P49768}. Golgi apparatus membrane {ECO:0000250|UniProtKB:P49768}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P49768}. Cytoplasmic granule {ECO:0000250|UniProtKB:P49768}. Cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P49768}. Cytoplasmic vesicle. Cell projection, growth cone {ECO:0000250|UniProtKB:P49768}. Cell projection, neuron projection {ECO:0000250|UniProtKB:P49768}. Early endosome {ECO:0000250|UniProtKB:P49768}. Early endosome membrane {ECO:0000250|UniProtKB:P49768}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P49768}. Cell projection, axon {ECO:0000250|UniProtKB:Q4JIM4}. Synapse {ECO:0000250|UniProtKB:Q4JIM4} Note=Translocates with bound NOTCH1 from the endoplasmic reticulum and/or Golgi to the cell surface. Colocalizes with CDH1/2 at sites of cell-cell contact. Colocalizes with CTNNB1 in the endoplasmic reticulum and the proximity of the plasma membrane. Also present in azurophil granules of neutrophils. Colocalizes with UBQLN1 in the cell membrane and in cytoplasmic juxtanuclear structures called aggresomes {ECO:0000250|UniProtKB:P49768}

Tissue Location
Detected in embryonic brain (PubMed:10421573). Detected in adult skin epidermis (at protein level) (PubMed:11517342)

Presenilin 1 (349-361) - Images