

Phospho-Presenilin 1 (Ser310) Rabbit mAb

Catalog # AP74958

Product Information

Application	WB
Primary Accession	P49768
Reactivity	Human
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	52668

Additional Information

Gene ID	5663
Other Names	PSEN1
Dilution	WB~~1/500-1/1000
Format	Liquid

Protein Information

Name	PSEN1
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:[10206644](#), PubMed:[10545183](#), PubMed:[10593990](#), PubMed:[10811883](#), PubMed:[10899933](#), PubMed:[12679784](#), PubMed:[12740439](#), PubMed:[15274632](#), PubMed:[20460383](#), PubMed:[25043039](#), PubMed:[26280335](#), PubMed:[28269784](#), PubMed:[30598546](#), PubMed:[30630874](#)). Requires the presence of the other members of the gamma-secretase complex for protease activity (PubMed:[15274632](#), PubMed:[25043039](#), PubMed:[26280335](#), PubMed:[30598546](#), PubMed:[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:[10593990](#), PubMed:[10811883](#), PubMed:[10899933](#), PubMed:[9738936](#)). 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:[11953314](#)). 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:[11953314](#), PubMed:[9738936](#)). 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:[17428795](#), PubMed:[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:[16959576](#), PubMed:[25394380](#)). 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).

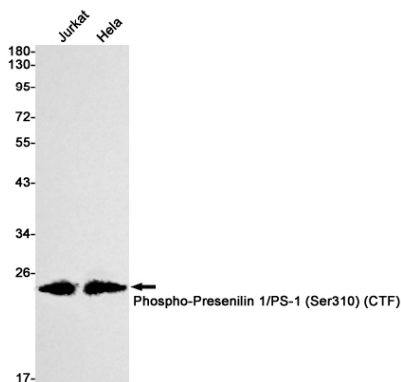
Cellular Location

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}. 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 juxtannuclear 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:8574969, PubMed:8641442).

Images



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