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# Presenilin 1 Antibody

Rabbit mAb
Catalog # AP91678

## Product Information

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| **Application** | WB, FC |
| **Primary Accession** | P49768 |
| **Reactivity** | Rat, Human, Mouse |
| **Clonality** | Monoclonal |
| **Other Names** | AD3; Ad3h; FAD; Protein S182; PS1-CTF12; PSEN1; PSNL1; S182; |
| **Isotype** | Rabbit IgG |
| **Host** | Rabbit |
| **Calculated MW** | 52668 |

## Additional Information

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| **Dilution** | WB 1:500~1:2000 FC1:10 |
| **Purification** | Affinity-chromatography |
| **Immunogen** | A synthesized peptide derived from human Presenilin 1 |
| **Description** | Probable 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 (beta-amyloid precursor protein). Requires the other members of the gamma-secretase complex to have a protease activity. |
| **Storage Condition and Buffer** | Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle. |

## Protein Information

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| **Name** | PSEN1 ( HGNC:9508) |
| **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**

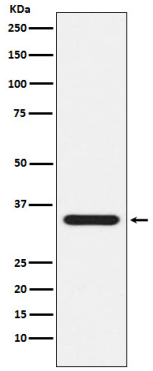
Endoplasmic reticulum. Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Cytoplasmic granule. Cell membrane; Multi-pass membrane protein. Cell projection, growth cone. Early endosome. Early endosome membrane; Multi-pass membrane protein. 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 juxtanuclear structures called aggresomes (PubMed:21143716). Also highly enriched in mitochondria-associated endoplasmic reticulum membrane contact site (By similarity). {ECO:0000250|UniProtKB:P49769, ECO:0000269|PubMed:10593990, ECO:0000269|PubMed:11987239, ECO:0000269|PubMed:21143716, ECO:0000269|PubMed:9738936}

**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

Western blot analysis of Presenilin 1 expression in Jurkat cell lysate.

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