

Rabbit Anti-presenilin 1 antibody

SL0024R

Product Name presenilin 1

Chinese Name 早老素蛋白-1 抗体

Alias Presenilin-1 NTF subunit; AD 3; AD3; Ad3h; Alzheimer Disease 3; EC 3.4.23.; FAD; Homo Sa
CC44 Senilin 1; Presenilin 1 Alzheimer disease 3; Presenilin 1; Presenilin1; Protein S182; PS 1;
PSEN 1; PSEN1; PSN 1; PSN1; PSN1_HUMAN; PSNL 1; PSNL1; S182; S182 Protein; Senilin

Research Area Neurobiology Apoptosis

Immunogen Species Rabbit

Clonality Polyclonal

React Species Human, Mouse, Rat, (predicted: Dog, Pig, Cow, Rabbit,)
WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-C
(Paraffin sections need antigen repair)

Applications not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight 34/52kDa

Cellular localization cytoplasmic The cell membrane

Form Liquid

Concentration 1mg/ml

immunogen KLH conjugated synthetic peptide derived from human Presenilin-1 NTF subunit: 10-80/467

Lsotype IgG

Purification affinity purified by Protein A

Buffer Solution 1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Storage Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention This product as supplied is intended for research use only, not for use in human, therapeutic or d
applications.

PubMed [PubMed](#)

Alzheimer's disease (AD) patients with an inherited form of the disease carry mutations in the presenilin 1 (PSEN1) or presenilin 2 (PSEN2) proteins (PSEN1; PSEN2) or in 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 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 other membrane receptors, such that they either directly regulate gamma-secretase activity or themselves are proteolytically processed. Several alternatively spliced transcript variants encoding different isoforms have been identified for the PSEN1 gene, the full-length nature of only some have been determined. [provided by RefSeq, Aug 2008]

Function:

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 proteolytic activity. May play a role in intracellular signaling and gene expression or in linking chromatin to the nuclear envelope. Stimulates cell-cell adhesion through its association with the E-cadherin/catenin complex. Under conditions of apoptosis or calcium influx, cleaves E-cadherin promoting the disassembly of the E-cadherin/catenin complex and increasing the pool of cytoplasmic beta-catenin, thus negatively regulating Wnt signaling. May also play a role in hematopoiesis.

Subunit:

Homodimer. Component of the gamma-secretase complex, a complex composed of a presenilin 1 (PSEN1 or PSEN2), nicastrin (NCSTN), APO E2 (APH1 (APH1A or APH1B) and PEN2. Such minimal complex is sufficient for secretase activity. Other components which are associated with the complex include SLC25A64, SLC5A7, PHB and PSEN1 isoform 3. Predominantly heterodimer of a N-terminal (NTF) and C-terminal (CTF) endoproteolytic fragment. Associates with proteolytically processed C-terminal fragments C83 and C99 of the amyloid precursor protein (APP). Associates with NOTCH1. Associates with E-cadherin/catenin adhesion complexes through direct binding to CDH1 or CDH2. Interaction with CDH2 stabilizes the complex and stimulates cell-cell aggregation. Interaction with CDH2 is essential for the trafficking of CDH2 from the endoplasmic reticulum to the plasma membrane. Interacts with CTNND2, CTNNA1, HERPUD1, FLNA, FLNB, MTCH1, PKP4 and PARL. Interacts through its N-terminus with isoform 3 of GFAP. Interacts with DOCK3.

**Product
Detail**

Subcellular Location:

Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Mitochondrial membrane protein. Cell surface. Note=Bound to NOTCH1 also at the cell surface. Colocalizes with NOTCH1 at sites of cell-cell contact. Colocalizes with CTNNA1 in the endoplasmic reticulum and the proximal plasma membrane. Also present in azurophilic granules of neutrophils.

Tissue Specificity:

Expressed in a wide range of tissues including various regions of the brain, liver, spleen and lymph nodes.

Post-translational modifications:

Heterogeneous proteolytic processing generates N-terminal (NTF) and C-terminal (CTF) fragments of approximately 35 and 20 kDa, respectively. During apoptosis, the C-terminal fragment (CTF) is

cleaved by caspase-3 to produce the fragment, PS1-CTF12.

After endoproteolysis, the C-terminal fragment (CTF) is phosphorylated on serine residues by PKC. Phosphorylation on Ser-346 inhibits endoproteolysis.

DISEASE:

Defects in PSEN1 are a cause of Alzheimer disease type 3 (AD3) [MIM:607822]. AD3 is a familial early-onset form of Alzheimer disease. Alzheimer disease is a neurodegenerative disorder characterized by progressive dementia, loss of cognitive abilities, and deposition of fibrillar amyloid proteins as intracellular neurofibrillary tangles, extracellular amyloid plaques and vascular amyloid deposits. The major component of these plaques is the neurotoxic amyloid-beta-APP 40-42 peptide (s), derived proteolytically from the transmembrane precursor protein APP by sequential secretase processing. The cytotoxic C-terminal fragments (CTFs) and the caspase-cleaved products such as C31 derived from APP, are also implicated in neuronal death.

Defects in PSEN1 are a cause of frontotemporal dementia (FTD) [MIM:600274].

Similarity:

Belongs to the peptidase A22A family.

SWISS:

P49768

Gene ID:

5663

Database links:

[Entrez Gene: 5663](#) Human

[Entrez Gene: 19164](#) Mouse

[Entrez Gene: 29192](#) Rat

[Omim: 104311](#) Human

[SwissProt: P49768](#) Human

[SwissProt: P49769](#) Mouse

[SwissProt: P97887](#) Rat

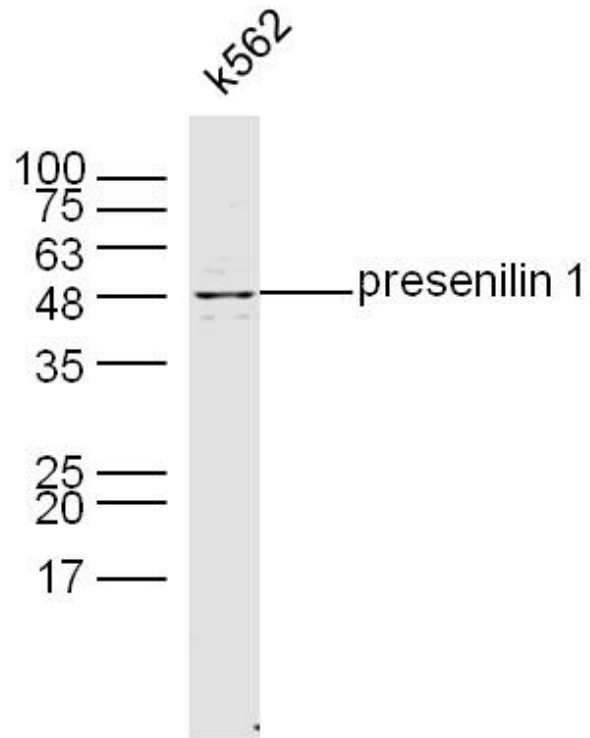
[Unigene: 3260](#) Human

[Unigene: 998](#) Mouse

Unigene: 44440 Rat

此抗体识别分子量为 45-50kDa 早老素蛋白-1。PS-1 主要在神经细胞中表达，早老蛋白集中和树突状细胞中。相反，再早发家族 AD (FAD) 中和散发 AD 病人中，PS1 免疫反应出现和神经纤维缠结的神经炎中。

**Product
Picture**



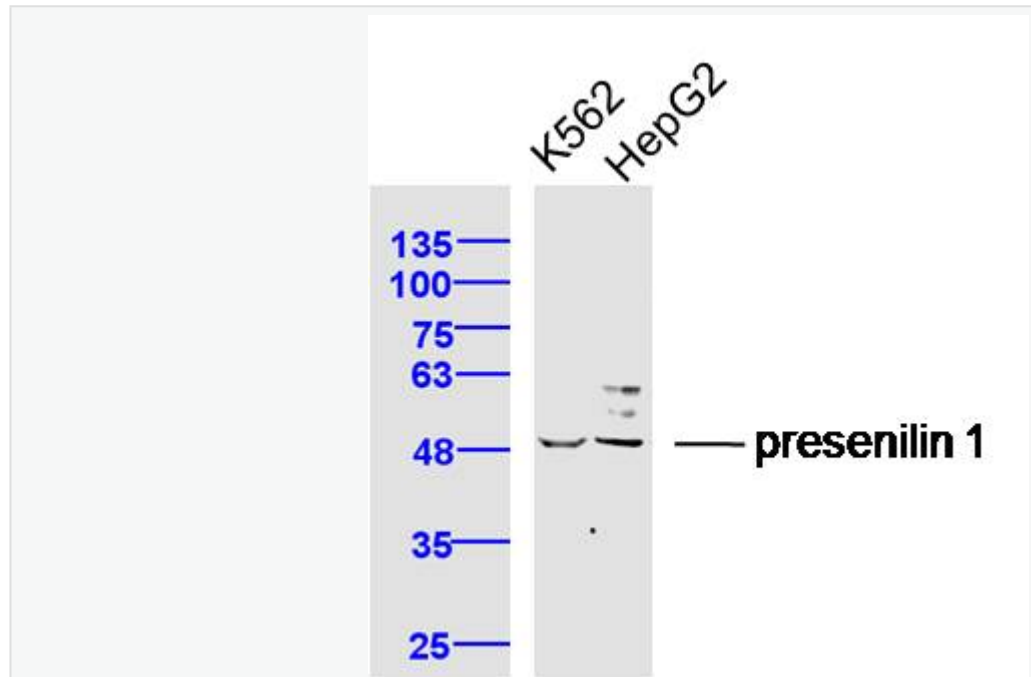
Sample: K562 Cell Lysate at 40 ug

Primary: Anti- presenilin1 (SL0024R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34/52 kD

Observed band size: 48 kD



Sample:

K562 Cell (Human) Lysate at 40 ug

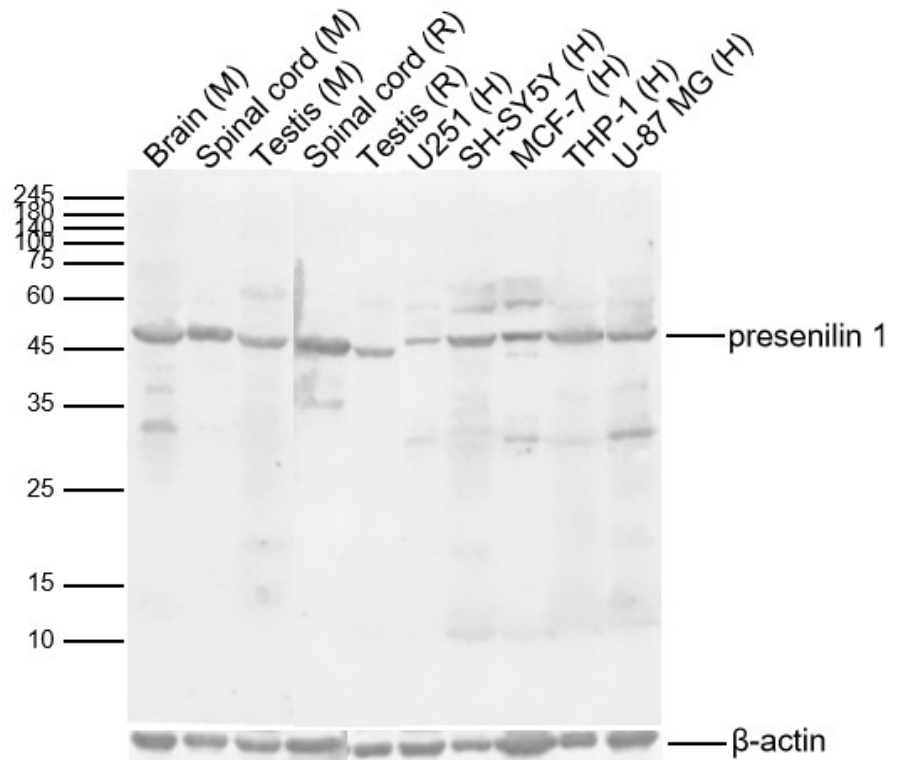
HepG2 Cell (Human) Lysate at 40 ug

Primary: Anti-presenilin 1 (SL0024R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 34/52 kD

Observed band size: 50 kD



Sample:

Lane 1: Mouse Brain Lysates

Lane 2: Mouse Spinal cord Lysates

Lane 3: Mouse Testis Lysates

Lane 4: Rat Spinal cord Lysates

Lane 5: Rat Testis Lysates

Lane 6: Human U251 cell Lysates

Lane 7: Human SH-SY5Y cell Lysates

Lane 8: Human MCF-7 cell Lysates

Lane 9: Human THP-1 cell Lysates

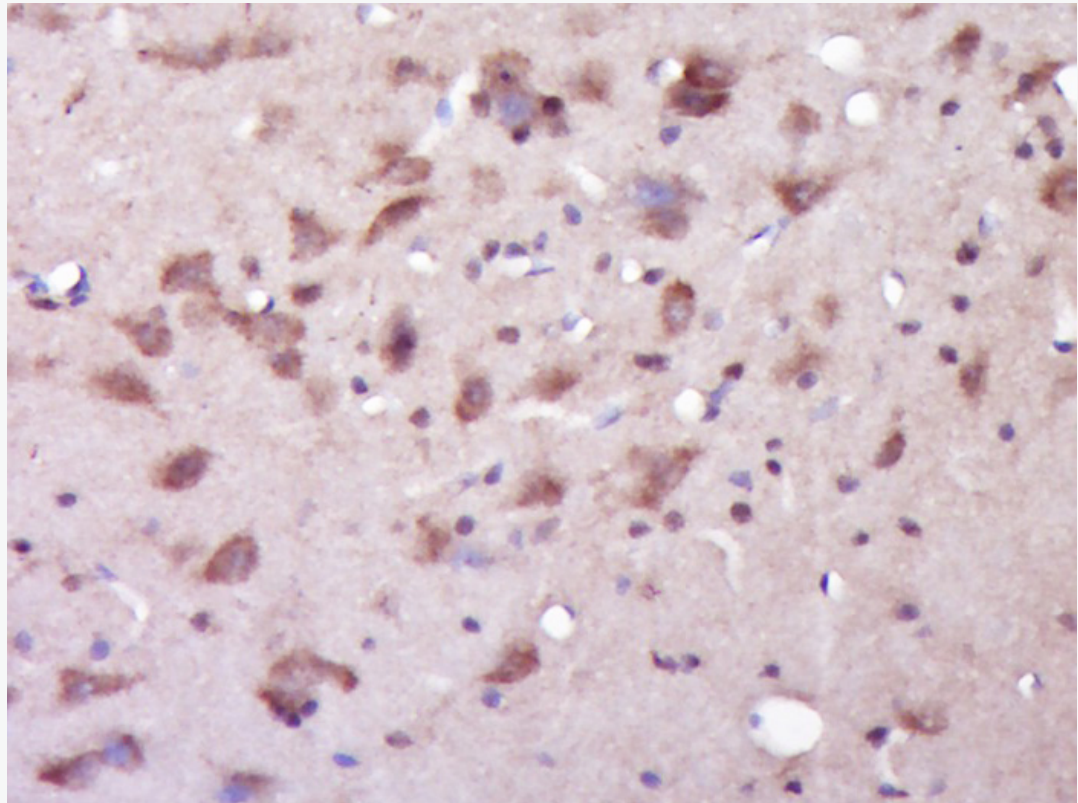
Lane 10: Human U-87 MG cell Lysates

Primary: Anti-presenilin 1 (SL0024R) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

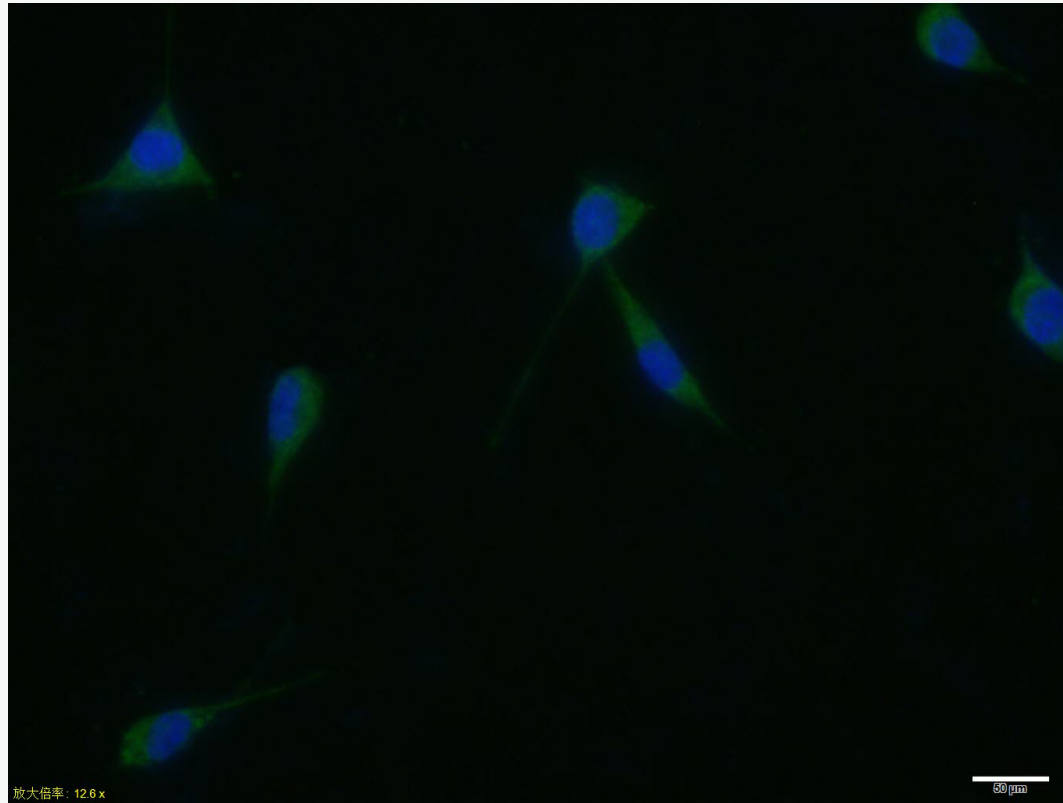
Predicted band size: 34/52kDa

Observed band size: 50kDa

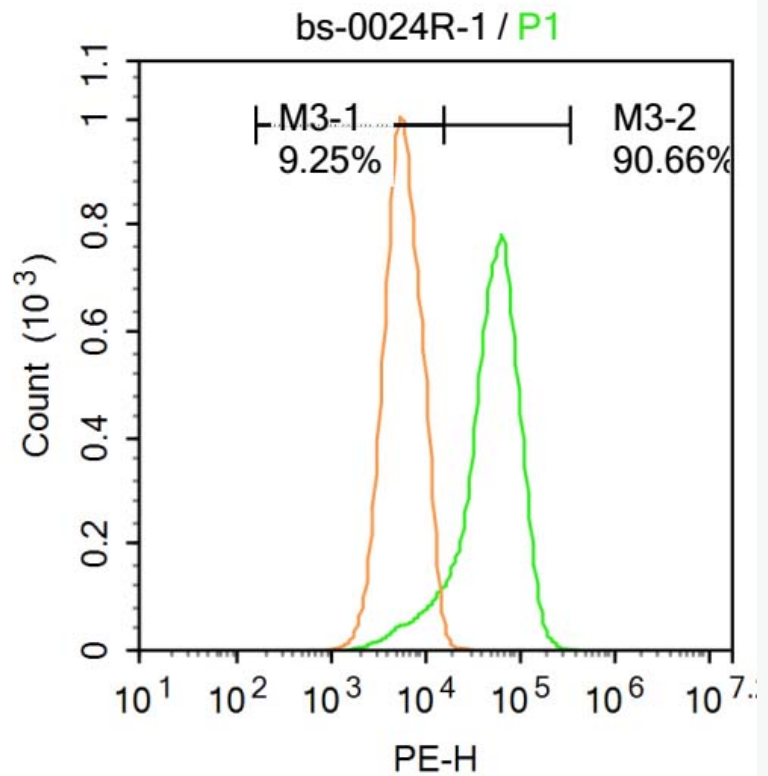


Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (presenilin 1) Polyclonal Antibody, Unconjugated (SL0024R) at 1:400 overnight at 4°C, followed by operation

according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



SH-SY5Y cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; B buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (presenilin polyclonal Antibody, Unconjugated (SL0024R) 1:100, 90 minutes at 37°C; followed by a con Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to cell nuclei.



Blank control: Raji.

Primary Antibody (green line): Rabbit Anti-presenilin 1 antibody (SL0024R)

Dilution: $1\mu\text{g}/10^6$ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-PE

Dilution: $1\mu\text{g}/\text{test}$.

Protocol

The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with PE for 10 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at at room temperature .Cells stained with Primary Antibody for 30 min



temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 cells was performed.