

# PEN2 (NT) antibody (pAb)

## Rabbit Anti-Human/Mouse/Rat Presenilin Enhancer Protein 2 (gamma-Secretase Subunit)

### Instruction Manual

Catalog Number	PK-AB718-3981
Synonyms	PEN2 Antibody: Presenilin enhancer protein 2, Gamma-secretase subunit PEN-2
Description	PEN2, in addition to presenilin, nicastrin, and APH-1 forms the $\gamma$ -secretase protein complex, a membrane-bound aspartyl protease that can cleave certain proteins at peptide bonds buried within the hydrophobic environment of the lipid bilayer. This cleavage is responsible for a key step in signaling from several cell-surface receptors and is thought to be required for the generation of the neurotoxic amyloid peptides that are central to the pathogenesis of Alzheimer's disease. Like the tumor necrosis factor- $\alpha$ -converting enzyme (TACE) and the $\beta$ -site cleavage enzyme (BACE) protease families, $\gamma$ -secretase will cleave the amyloid precursor protein (APP), but within the intramembrane region of APP, resulting in either the non-toxic p3 (from the $\alpha$ and $\gamma$ cleavage site) or the toxic A $\beta$ amyloid peptide (from the $\beta$ and $\gamma$ cleavage site). It is thought that accumulation of the A $\beta$ peptide is the precursor to Alzheimer's disease.
Quantity	100 $\mu$ g
Source / Host	Rabbit
Immunogen	PEN2 antibody was raised against a 13 amino acid peptide from near the amino terminus of human PEN2.
Purification Method	Affinity chromatography purified via peptide column.
Clone / IgG Subtype	Polyclonal antibody
Species Reactivity	Human, Mouse, Rat
Specificity	
Formulation	Antibody is supplied in PBS containing 0.02% sodium azide.
Reconstitution	During shipment, small volumes of antibody will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 $\mu$ l or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.
Storage & Stability	Antibody can be stored at 4°C for three months and at -20°C for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Applications	E, WB, IHC, IF INote: Antibody might be suitable for other applications not tested so far. Optimal concentrations for each application have to be determined individually. PEN2 antibody can be used for detection of PEN2 by Western blot at 0.5 - 1 $\mu$ g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 $\mu$ g/mL. For immunofluorescence start at 20 $\mu$ g/mL.
Images	Available upon request.
References	Weihofen A and Martoglio B. Intramembrane-cleaving proteases: controlled liberation of proteins and bioactive peptides. Trends Cell Biol. 2003; 13:71-8. Periz G and Fortini ME. Functional reconstitution of $\gamma$ -secretase through coordinated expression of presenilin, nicastrin, aph-1, and pen-2. J. Neurosci. Res. 2004; 77:309-22. Selkoe DJ. The cell biology of b-amyloid precursor protein and presenilin in Alzheimer's disease. Trends Cell Biol. 1998; 8:447-53. Selkoe SJ. Translating cell biology into therapeutic advances in Alzheimer's disease. Nature 1999; 399:A23-31.
Images	Available upon request.
Related Products	A-20 Lysate, Cat. No. PK-AB718-1288; PEN2 Peptide, Catalog No. PK-AB718-3981P Nicastrin Antibody, Cat. No. PK-AB718-3983; PEN2 Antibody, Catalog No. PK-AB718-3979 APP Antibody, Cat. No. PK-AB718-2136; APP Antibody, Cat. No. PK-AB718-2133; APH1 Antibody, Cat. No. PK-AB718-4001 BACE Antibody, Cat. No. PK-AB718-2253; BACE2 Antibody, Cat. No. PK-AB718-2249.
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