

#5451 Store at -20C

PEN2 Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|---------|-------------|-----------------|
| WB | H M R Mk | Endogenous | 13 | Rabbit | #Q9NZ42 | 55851 |

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| Product Usage Information | Application Western Blotting | Dilution 1:1000 |
| Storage | Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody. | |
| Specificity / Sensitivity | PEN2 Antibody detects endogenous levels of total PEN2 protein. | |
| Source / Purification | Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Lys11 of human PEN2 protein. Antibodies are purified by protein A and peptide affinity chromatography. | |
| Background | <p>Presenilin Enhancer 2 (PEN2) is a small integral membrane glycoprotein that contains two recognized transmembrane domains. Both the N- and C-terminal domains are oriented into the lumen of the endoplasmic reticulum (1). PEN2, along with Presenilin 1, Presenilin 2, Nicastrin, and APH-1 form the protein complex γ-secretase (2). The proteinase BACE catalyses the initial step in APP processing by cleaving and releasing soluble APPβ (3). The remaining membrane bound APP is then cleaved by the γ-secretase complex, causing the release of amyloid β-peptide, the main constituent of amyloid plaques. These plaques are a hallmark of Alzheimer's disease pathology (2). In addition to APP, the γ-secretase complex cleaves several other proteins and necessary presenilin-dependent signaling cascades, including the Notch pathway (4). It was found that PEN2 is an important part of the γ-secretase complex, and knocking it down results in reduced amounts of the complex, resulting in a loss of γ-secretase activity (5).</p> | |
| Background References | <ol style="list-style-type: none"> 1. Sala Frigerio, C. et al. (2005) <i>J Neurol</i> 252, 1033-6. 2. Hansson, C.A. et al. (2004) <i>J Biol Chem</i> 279, 51654-60. 3. Hunt, C.E. and Turner, A.J. (2009) <i>FEBS J</i> 276, 1845-59. 4. St George-Hyslop, P. and Schmitt-Ulms, G. (2010) <i>Nature</i> 467, 36-7. 5. Steiner, H. et al. (2002) <i>J Biol Chem</i> 277, 39062-5. | |

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| Species Reactivity | Species reactivity is determined by testing in at least one approved application (e.g., western blot). |
| Western Blot Buffer | IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight. |
| Applications Key | WB: Western Blotting |
| Cross-Reactivity Key | H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected |
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