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Store at -20C  
#8598

## PEN2 (D6G8) Rabbit mAb

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

<b>Applications:</b> W, IP	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 13	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q9NZ42	<b>Entrez-Gene Id:</b> 55851
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### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:50

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

PEN2 (D6G8) Rabbit mAb recognizes endogenous levels of total PEN2 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu92 of human PEN2 protein.

### Background

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  $\gamma$ -secretase (2). The proteinase BACE catalyses the initial step in APP processing by cleaving and releasing soluble APP $\beta$  (3). The remaining membrane bound APP is then cleaved by the  $\gamma$ -secretase complex, causing the release of amyloid  $\beta$ -peptide, the main constituent of amyloid plaques. These plaques are a hallmark of Alzheimer's disease pathology (2). In addition to APP, the  $\gamma$ -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  $\gamma$ -secretase complex, and knocking it down results in reduced amounts of the complex, resulting in a loss of  $\gamma$ -secretase activity (5).

### Background References

1. Sala Frigerio, C. et al. (2005) *J Neurol* 252, 1033-6.
2. Hansson, C.A. et al. (2004) *J Biol Chem* 279, 51654-60.
3. Hunt, C.E. and Turner, A.J. (2009) *FEBS J* 276, 1845-59.
4. St George-Hyslop, P. and Schmitt-Ulms, G. (2010) *Nature* 467, 36-7.
5. Steiner, H. et al. (2002) *J Biol Chem* 277, 39062-5.

### 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

**W:** Western Blotting **IP:** Immunoprecipitation

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