#8598 Store at -20°C

PEN2 (D6G8) Rabbit mAb

Cell Signaling TECHNOLOGY®

✓ 100 µl
(10 western blots)

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New 02/12

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Entrez-Gene ID #55851
Swiss-Prot Acc. #Q9NZ42

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP	H, M, R, Mk	13 kDa	Rabbit IgG**
Endogenous			

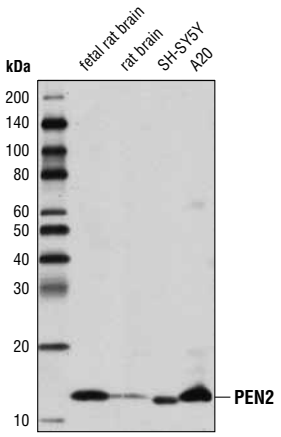
Background: Presenilin Enhancer 2 (PEN2) is a small integral membrane glycoprotein that contains two recognized transmembrane domains. Both the N- and C-terminal domains are oriented into the lumen of the endoplasmic reticulum (1). PEN2, along with Presenilin 1, Presenilin 2, Nicastrin, and APH-1 form the protein complex 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).

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 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.



Western blot analysis of extracts from various cell lines using PEN2 (D6G8) Rabbit mAb.

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.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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