Qty: 50µg/200 µL

Rabbit anti-Pen-2

Catalog No. 36-7100

Lot No.

Rabbit anti-Pen-2

FORM
This polyclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.318

IMMUNOGEN
Synthetic peptide derived from the N-terminal region of the human and mouse Pen-2 (Presenilin enhancer protein 2, gamma-secretase subunit Pen-2, hematopoietic stem/progenitor cells protein MDS033) proteins.

SPECIFICITY
This antibody reacts with human and mouse Pen-2. On Western blots, it identifies a band at ~14 kDa. Bands of unknown origin between ~30 and 100 kDa are also observed.

REACTIVITY
Reactivity has been confirmed with human HEK293 cell lysates, Pen-2-HA-transfected cell lysates, and mouse brain homogenates by Western blotting. Reactivity has also been confirmed with fetal mouse brain homogenates and HEK293 cell lysates by immunoprecipitation and with mouse brain tissue sections (fixed in 4% paraformaldehyde) by immunohistochemistry.

Sample	Western Blotting	Immuno-precipitation (native)	Immuno-histochemistry
Human	+++	+++	ND
Mouse	+++	+++	+++

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting : 1-3 µg/mL
Immunoprecipitation : 5-10 µg/mL
Immunohistochemistry : 0.5 – 1.0 µg/mL

STORAGE
Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

BACKGROUND

Pen-2 (presenilin enhancer protein 2, γ-secretase subunit Pen-2, hematopoietic stem/progenitor cells protein MDS033) is an essential component of the γ-secretase complex, which plays a central role in the pathogenesis of Alzheimer's disease,[1-2] and is also required for Notch signaling. The γ-secretase complex is composed of a presenilin heterodimer, a highly glycosylated form of nicastrin, Aph-1, and Pen-2.[3] The presenilin dimer contains the active site of the γ-secretase complex, and the other three proteins act as necessary co-factors in the assembly of the active form of the γ-secretase enzyme.

Aph-1 and Pen-2 were first identified in a *C.elegans* genetic screen as transmembrane proteins that are required for the activity and accumulation of γ-secretase.[4] Pen-2 is critical for presenilin 1 endoproteolysis, while Aph-1 plays a regulatory role in the stabilization of presenilin 1.[5]

REFERENCES

1. Steiner H, et al. *J Biol Chem* 277(42):39062-39065, 2002.
2. Crystal AS, et al. *J Biol Chem* 278(22):20117-20123, 2003.
3. LaVoie MJ, et al. *J Biol Chem* 278(39):37213-37222, 2003.
4. Francis R, et al. *Dev Cell* 3(1):85-97, 2002.
5. Luo W, et al. *J Biol Chem* 278(10):7850-7854, 2003.

RELATED PRODUCTS

Product	*Clone/PAD**	*Cat. No.*
Rb anti-Presenilin 1 (N-term)	PS-1N	71-1300
Rb anti-Presenilin 1 (N-term)	ZMD.97	34-4600
Rb anti-Presenilin 1 (Loop)	PS-1L	51-4200
Rb anti-Presenilin 2 (N-term)	ZMD.96	34-4500
Rb anti-Presenilin 2 (Loop)	ZMD.84	34-4400
Rb anti-Nicastrin	ZMD.242	34-9200
Rb anti-Amyloid-β Precursor Protein	ZMD.316	36-6900
Ms anti-Amyloid-β Precursor Protein	LN27	13-0200
Rb anti-Amyloid-β Peptide	Polyclonal	71-5800
Ms anti-Amyloid-β Peptide	AMY-33	13-0100
Rb anti-BACE	ZMD.116	34-4900
Rb anti-BACE 2 (C-term)	ZMD.117	34-5000
Rb anti-BACE 2 (Mid)	ZMD.167	34-5100
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

*PAD: Polyclonal Antibody Designation

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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