

# PREP (N-15): sc-82324



The Power to Question

## BACKGROUND

PREP (prolyl endopeptidase), also known as PE or PEP, is a 710 amino acid protein that localizes to the cytoplasm and belongs to the peptidase S9A family. Existing as a monomer, PREP functions as a prolyl endopeptidase that specifically cleaves peptide bonds on the C-terminal side of prolyl residues within proteins that are approximately 30 amino acids long. Via its catalytic activity, PREP is thought to be involved in the formation and degradation of neuropeptides and hormones, indicating involvement in signaling and regulatory pathways throughout the body. The gene encoding PREP maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES

1. Wilk, S. 1983. Prolyl endopeptidase. *Life Sci.* 33: 2149-2157.
2. Shirasawa, Y., et al. 1994. Molecular cloning and characterization of prolyl endopeptidase from human T cells. *J. Biochem.* 115: 724-729.
3. Valdivia, A., et al. 2004. Pyroglutamyl peptidase I and prolyl endopeptidase in human semen: increased activity in necrozoospermia. *Regul. Pept.* 122: 79-84.
4. Schulz, I., et al. 2005. Subcellular localization suggests novel functions for prolyl endopeptidase in protein secretion. *J. Neurochem.* 94: 970-979.
5. Bär, J.W., et al. 2006. Prolyl endopeptidase cleaves the apoptosis rescue peptide humanin and exhibits an unknown post-cysteine cleavage specificity. *Adv. Exp. Med. Biol.* 575: 103-108.
6. Mamdani, F., et al. 2007. No association between the PREP gene and lithium responsive bipolar disorder. *BMC Psychiatry.* 7: 9.
7. Myöhänen, T.T., et al. 2007. Distribution of immunoreactive prolyl oligopeptidase in human and rat brain. *Neurochem. Res.* 32: 1365-1374.

## CHROMOSOMAL LOCATION

Genetic locus: PREP (human) mapping to 6q21; Prep (mouse) mapping to 10 B2.

## SOURCE

PREP (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PREP of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

PREP (N-15) is recommended for detection of PREP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PREP siRNA (h): sc-76244, PREP siRNA (m): sc-76245, PREP shRNA Plasmid (h): sc-76244-SH, PREP shRNA Plasmid (m): sc-76245-SH, PREP shRNA (h) Lentiviral Particles: sc-76244-V and PREP shRNA (m) Lentiviral Particles: sc-76245-V.

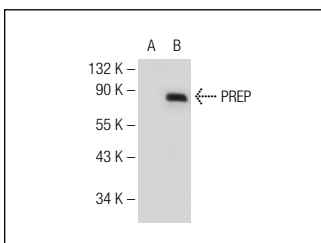
Molecular Weight of PREP: 80 kDa.

Positive Controls: PREP (m): 293T Lysate: sc-122762.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PREP (N-15): sc-82324. Western blot analysis of PREP expression in non-transfected: sc-117752 (A) and mouse PREP transfected: sc-122762 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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Try **PREP (C-12): sc-365416**, our highly recommended monoclonal alternative to PREP (N-15).