



PREP siRNA (m): sc-76245

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

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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.
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8. Garcia-Horsman, J.A., et al. 2007. Deficient activity of mammalian prolyl oligopeptidase on the immunoactive peptide digestion in coeliac disease. *Scand. J. Gastroenterol.* 42: 562-571.

CHROMOSOMAL LOCATION

Genetic locus: Prep (mouse) mapping to 10 B2.

PRODUCT

PREP siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PREP shRNA Plasmid (m): sc-76245-SH and PREP shRNA (m) Lentiviral Particles: sc-76245-V as alternate gene silencing products.

For independent verification of PREP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76245A, sc-76245B and sc-76245C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PREP siRNA (m) is recommended for the inhibition of PREP expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

PREP (C-12): sc-365416 is recommended as a control antibody for monitoring of PREP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PREP gene expression knockdown using RT-PCR Primer: PREP (m)-PR: sc-76245-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.