

PREB siRNA (h): sc-94852

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. PREB (prolactin regulatory element binding), also known as SEC12, is a 417 amino acid protein that localizes to both the nucleus and to the membrane of the endoplasmic reticulum (ER) and contains three WD repeats. Expressed ubiquitously, PREB binds to the Prolactin promoter and may function as a transcriptional regulator, possibly playing a role in the development of abnormalities observed in patients with partial trisomy 2p. Additionally, PREB is required for the formation of transport vesicles from the ER and may also function as a guanine nucleotide exchange factor that activates Sar1B.

REFERENCES

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2. Lippincott-Schwartz, J., et al. 2000. Secretory protein trafficking and organelle dynamics in living cells. *Annu. Rev. Cell Dev. Biol.* 16: 557-589.
3. Taylor Clelland, C.L., et al. 2000. Cloning and characterization of human PREB; a gene that maps to a genomic region associated with trisomy 2p syndrome. *Mamm. Genome* 11: 675-681.
4. Kirchhausen, T. 2000. Three ways to make a vesicle. *Nat. Rev. Mol. Cell Biol.* 1: 187-198.
5. Edgar, A.J. 2003. The gene structure and expression of human ABHD1: overlapping polyadenylation signal sequence with Sec12. *BMC Genomics* 4: 18.
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CHROMOSOMAL LOCATION

Genetic locus: PREB (human) mapping to 2p23.3.

PRODUCT

PREB siRNA (h) 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 PREB shRNA Plasmid (h): sc-94852-SH and PREB shRNA (h) Lentiviral Particles: sc-94852-V as alternate gene silencing products.

For independent verification of PREB (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94852A, sc-94852B and sc-94852C.

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

PREB siRNA (h) is recommended for the inhibition of PREB expression in human 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PREB gene expression knockdown using RT-PCR Primer: PREB (h)-PR: sc-94852-PR (20 μ l, 590 bp). 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.