SANTA CRUZ BIOTECHNOLOGY, INC.

PRB4 siRNA (h): sc-95800

BACKGROUND

Salivary proline-rich proteins are synthesized in acinar cells of salivary glands and function as essential components of parotid and submandibular saliva. There are six members of the human salivary proline-rich protein family, namely, PRB1, PRB2, PRB3, PRB4, PRH1 and PRH2, each of which is encoded by a gene approximately 4kb long with an exon containing a proline-rich portion. Thought to originate from a single ancestral gene, members of the salivary proline-rich protein family are encoded by genes that map to a cluster on human chromosome 12p13. PRB4 (proline-rich protein BstNI subfamily 4), also known as basic salivary proline-rich protein 4, parotid o protein, salivary proline-rich protein II-1 or Po, is a 392 amino acid secreted protein that is cleaved into three chains and contains polymorphic tandem repeats varying among different alleles.

REFERENCES

1. Ikemoto, S., et al. 1977. New genetic marker in human parotid saliva (pm). Science 197: 378-379.
2. Bennick, A. 1982. Salivary proline-rich proteins. Mol. Cell. Biochem. 45: 83-99.
3. Azen, E.A. and Yu, P.L. 1984. Genetic polymorphisms of Pe and Po salivary proteins with probable linkage of their genes to the salivary protein gene complex (SPC). Biochem. Genet. 22: 1065-1080.
4. Azen, E.A., et al. 1993. PRBI gene variants coding for length and null polymorphisms among human salivary Ps, PmF, PmS, and Pe proline-rich proteins (PRPs). Am. J. Hum. Genet. 53: 264-278.
5. Kim, H.S., et al. 1993. The structure and evolution of the human salivary proline-rich protein gene family. Mamm. Genome 4: 3-14.
6. Azen, E.A., et al. 1996. PRB1, PRB2, and PRB4 coded polymorphisms among human salivary concanavalin-A binding, II-1, and Po proline-rich proteins. Am. J. Hum. Genet. 58: 143-153.
7. Stubbs, M., et al. 1998. Encoding of human basic and glycosylated proline-rich proteins by the PRB gene complex and proteolytic processing of their precursor proteins. Arch. Oral Biol. 43: 753-770.
8. Castle, A.M. and Castle, J.D. 1998. Enhanced glycosylation and sulfation of secretory proteoglycans is coupled to the expression of a basic secretory protein. Mol. Biol. Cell 9: 575-583.
9. Chan, M. and Bennick, A. 2001. Proteolytic processing of a human salivary proline-rich protein precursor by proprotein convertases. Eur. J. Biochem. 268: 3423-3431.

CHROMOSOMAL LOCATION

Genetic locus: PRB4 (human) mapping to 12p13.2.

PROTOCOLS

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

PRODUCT

PRB4 siRNA (h) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PRB4 shRNA Plasmid (h): sc-95800-SH and PRB4 shRNA (h) Lentiviral Particles: sc-95800-V as alternate gene silencing products.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PRB4 siRNA (h) is recommended for the inhibition of PRB4 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 µM in 66 µl. 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 PRB4 gene expression knockdown using RT-PCR Primer: PRB4 (h)-PR: sc-95800-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, T., et al. 2006. Expression of SUMO-2/3 induced senescence through p53- and pRB-mediated pathways. J. Biol. Chem. 281: 36221-36227.

RESEARCH USE

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