



PRRG2 siRNA (h): sc-97344

BACKGROUND

PRRG2 (proline-rich γ -carboxyglutamic acid protein 2), also known as PRGP2 or TMG2 (transmembrane γ -carboxyglutamic acid protein 2), is a 202 amino acid single-pass type I membrane protein that is widely expressed, with highest levels found in thyroid. PRRG2 contains an N-terminal propeptide sequence that allows for vitamin K-dependent γ -carboxylation of various glutamic acid residues, followed by an N-terminal Gla (γ -carboxy-glutamate) domain and transmembrane region. PRRG2 has a proline-rich C-terminus with PPXY and PXXP motifs. The gene encoding PRRG2 maps to human chromosome 19, which consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

1. Olsen, A., et al. 1994. Gene organization of the pregnancy-specific glycoprotein region on human chromosome 19: assembly and analysis of a 700-kb cosmid contig spanning the region. *Genomics* 23: 659-668.
2. Kulman, J.D., et al. 1997. Primary structure and tissue distribution of two novel proline-rich γ -carboxyglutamic acid proteins. *Proc. Natl. Acad. Sci. USA* 94: 9058-9062.
3. Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. *Clin. Cancer Res.* 6: 2988-2993.
4. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. *Immunol. Rev.* 181: 20-38.
5. Leeb, T., et al. 2004. Comparative human-mouse-rat sequence analysis of the ICAM gene cluster on HSA 19p13.2 and a 185-kb porcine region from SSC 2q. *Gene* 343: 239-244.
6. Kulman, J.D., et al. 2007. Proline-rich Gla protein 2 is a cell-surface vitamin K-dependent protein that binds to the transcriptional coactivator Yes-associated protein. *Proc. Natl. Acad. Sci. USA* 104: 8767-8772.
7. Barrow, A.D., et al. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. *Immunol. Rev.* 224: 98-123.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 604429. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: PRRG2 (human) mapping to 19q13.33.

PRODUCT

PRRG2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PRRG2 shRNA Plasmid (h): sc-97344-SH and PRRG2 shRNA (h) Lentiviral Particles: sc-97344-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 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

PRRG2 siRNA (h) is recommended for the inhibition of PRRG2 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 PRRG2 gene expression knockdown using RT-PCR Primer: PRRG2 (h)-PR: sc-97344-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.