SANTA CRUZ BIOTECHNOLOGY, INC.

Reg IIIγ siRNA (h): sc-94881

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The regeneration (REG) family consists of secretory proteins involved in liver, pancreatic, gastric and intestinal cell proliferation or differentiation. Members of the REG family are divided into four subclasses, designated types I, II, III and IV, all of which share a common gene structure containing five introns and six exons. Members of the Reg family have been implicated in the regulation of cell growth, tumorigenesis and the progression of cancer. Reg IIIγ (regenerating islet-derived 3 γ), also known as pancreatitis-associated protein 1B, PAP1B, or UNQ429, is a 175 amino acid secreted protein that is expressed almost exclusively in pancreas, with low levels of expression in testis. Reg IIIγ functions as an antimicrobial protein involved in controlling bacterial proliferation and may be induced during acute pancreatitis. The gene encoding Reg IIIγ maps to human chromosome 2, which houses over 1,400 genes and comprises nearly 8% of the human genome.

REFERENCES

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2. Zhang, Y.W., et al. 2003. Reg gene family and human diseases. World J. Gastroenterol. 9: 2635-2641.
3. Nata, K., et al. 2004. Molecular cloning, expression and chromosomal localization of a novel human REG family gene, REG III. Gene 340: 161-170.
4. Laurine, E., et al. 2005. PAP IB, a new member of the Reg gene family: cloning, expression, structural properties, and evolution by gene duplication. Biochim. Biophys. Acta 1727: 177-187.
5. Cash, H.L., et al. 2006. Symbiotic bacteria direct expression of an intestinal bactericidal lectin. Science 313: 1126-1130.
6. Taylor-Fishwick, D.A., et al. 2008. Pancreatic islet immunoreactivity to the Reg protein INGAP. J. Histochem. Cytochem. 56: 183-191.
7. Brandl, K., et al. 2008. Vancomycin-resistant enterococci exploit antibiotic-induced innate immune deficits. Nature 455: 804-807.

CHROMOSOMAL LOCATION

Genetic locus: REG3G (human) mapping to 2p12.

PRODUCT

Reg IIIγ siRNA (h) is a pool of 2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Reg IIIγ shRNA Plasmid (h): sc-94881-SH and Reg IIIγ shRNA (h) Lentiviral Particles: sc-94881-V as alternate gene silencing products.

For independent verification of Reg IIIγ (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-94881A and sc-94881B.

RESEARCH USE

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

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

Reg IIIγ siRNA (h) is recommended for the inhibition of Reg IIIγ 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.

GENE EXPRESSION MONITORING

Reg IIIγ (179A2Y): sc-517630 is recommended as a control antibody for monitoring of Reg IIIγ 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Reg IIIγ gene expression knockdown using RT-PCR Primer: Reg IIIγ (h)-PR: sc-94881-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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