SANTA CRUZ BIOTECHNOLOGY, INC.

Reg IIIα siRNA (m): sc-61451

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. They have been implicated in the regulation of cell growth, tumorigenesis and the progression of cancer. Specifically, increased expression of Reg IIIα results in pancreatic inflammation and liver carcinogenesis. Reg IIIα, also de-signated pancreatitis-associated protein, localizes to the apical region of pancreatic acinar cells and is similar to the C-type lectin superfamily. The Reg IIIα protein is mainly expressed in the intestine, with lower expression detected in healthy pancreas. It is also detected in pancreatic juice as a result of pancreatic inflammation.

REFERENCES

1. Nata, K., et al. 2004. Molecular cloning, expression and chromosomal localization of a novel human REG family gene, REG3. Gene 340: 161-170.
2. Lieu, H.T., et al. 2005. HIP/PAP accelerates liver regeneration and protects against acetaminophen injury in mice. Hepatology 42: 618-626.
3. Yu, T.T., et al. 2005. Differentially expressed transcripts from phenotypically identified olfactory sensory neurons. J. Comp. Neurol. 483: 251-262.
4. Namikawa, K., et al. 2005. Expression of Reg/PAP family members during motor nerve regeneration in rat. Biochem. Biophys. Res. Commun. 332: 126-134.
5. Chen, C.Y., et al. 2005. The value of biliary Amylase and hepatocarcinoma-intestine-protein I (HIP/PAP-I) in diagnosing biliary malignancies. Clin. Biochem. 38: 520-525.
6. Jamal, A.M., et al. 2005. Morphogenetic plasticity of adult human pancreatic islets of Langerhans. Cell Death Differ. 12: 702-712.
7. Nordback, I., et al. 2005. Is it long-term continuous drinking or the post-drinking withdrawal period that triggers the first acute alcoholic pancreatitis? Scand. J. Gastroenterol. 40: 1235-1239.

CHROMOSOMAL LOCATION

Genetic locus: Reg3a (mouse) mapping to 6 C3.

PRODUCT

Reg IIIα 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Reg IIIα shRNA Plasmid (m): sc-61451-SH and Reg IIIα shRNA (m) Lentiviral Particles: sc-61451-V as alternate gene silencing products.

For independent verification of Reg IIIα (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-61451A, sc-61451B and sc-61451C.

PROTOCOLS

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

Reg IIIα siRNA (m) is recommended for the inhibition of Reg IIIα 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 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 IIIα (31R-7): sc-80319 is recommended as a control antibody for monitoring of Reg IIIα 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 IIIα gene expression knockdown using RT-PCR Primer: Reg IIIα (m)-PR: sc-61451-PR (20 µl). 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.