SANTA CRUZ BIOTECHNOLOGY, INC.

Reg II siRNA (m): sc-106498

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, and have been implicated in the regulation of cell growth, tumorigenesis and the progression of cancer. Reg II (regenerating islet-derived 2), also known as pancreatic stone protein 2, lithostathine-2, pancreatic thread protein 2, MGC107500, PSP, PTP or Islet of Langerhans regenerating protein 2, is a 173 amino acid protein that may inhibit spontaneous calcium carbonate precipitation and contains one C-type lectin domain. Reg II is highly expressed in regenerating islets and normal exocrine pancreas, but not in normal pancreatic islets. Reg II is also weakly expressed in liver. Reg II may be a candidate for cytoprotection of exocrine pancreas, and is linked to pancreatic β-cell growth and development of type 1 diabetes.

REFERENCES

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2. Perfetti, R., et al. 1996. Differential expression of reg-I and reg-II genes during aging in the normal mouse. J. Gerontol. A Biol. Sci. Med. Sci. 51: B308-B315.
3. Abe, M., et al. 2000. Identification of a novel Reg family gene, Reg IIIδ, and mapping of all three types of Reg family gene in a 75 kilobase mouse genomic region. Gene 246: 111-122.
4. Lieu, H.T., et al. 2006. Reg2 inactivation increases sensitivity to Fas hepatotoxicity and delays liver regeneration post-hepatectomy in mice. Hepatology 44: 1452-1464.
5. Gurr, W., et al. 2007. RegII is a β-cell protein and autoantigen in diabetes of NOD mice. Diabetes 56: 34-40.
6. Zhong, B., et al. 2007. Reg-II is an exocrine pancreas injury-response product that is up-regulated by keratin absence or mutation. Mol. Biol. Cell 18: 4969-4978.
7. Wilding Crawford, L., et al. 2008. Gene expression profiling of a mouse model of pancreatic islet dysmorphogenesis. PLoS ONE 3: e1611.

CHROMOSOMAL LOCATION

Genetic locus: Reg2 (mouse) mapping to 6 C3.

PRODUCT

Reg II 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 II shRNA Plasmid (m): sc-106498-SH and Reg II shRNA (m) Lentiviral Particles: sc-106498-V as alternate gene silencing products.

For independent verification of Reg II (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-106498A, sc-106498B and sc-106498C.

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 II siRNA (m) is recommended for the inhibition of Reg II 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 II (Q-18): sc-80318 is recommended as a control antibody for monitoring of Reg II 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Reg II gene expression knockdown using RT-PCR Primer: Reg II (m)-PR: sc-106498-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.

PROTOCOLS

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