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RGS22 siRNA (m): sc-152841

BACKGROUND

Heterotrimeric G proteins function to relay information from cell surface receptors to intracellular effectors. In mammals, G protein α , β and γ polypeptides are encoded by at least 16, 4 and 7 genes, respectively. Most interest in G proteins has been focused on their α subunits, since these proteins bind and hydrolyze GTP and most obviously regulate the activity of the best studied effectors. RGS22 (regulator of G-protein signaling 22), also known as FLJ75004, PRTD-NY2, FLJ40080, MGC102908 or DKFZp434i092, is a novel 1264 amino acid regulator of G-protein signaling specific to testis. RGS22 inhibits signal transduction and contains two isoforms as a result of alternative splicing. RGS22 is found in spermatogenic cells and Leydig cells, and may be involved in the translocation of GNA13 from the cytoplasm to the nucleus during spermiogenesis. RGS22 contains two RGS domains: RGS1 and RGS2, and the gene encoding RGS22 maps to human chromosome 8q22.2.

REFERENCES

1. Conklin, B.R. and Bourne, H.R. 1993. Structural elements of G α subunits that interact with G $_{\beta\gamma}$ receptors, and effectors. *Cell* 73: 631-641.
2. Hepler, J.R. 1999. Emerging roles for RGS proteins in cell signalling. *Trends Pharmacol. Sci.* 20: 376-382.
3. Neitzel, K.L. and Hepler, J.R. 2006. Cellular mechanisms that determine selective RGS protein regulation of G protein-coupled receptor signaling. *Semin. Cell Dev. Biol.* 17: 383-389.
4. Hu, Y., et al. 2008. RGS22, a novel testis-specific regulator of G-protein signaling involved in human and mouse spermiogenesis along with GNA12/13 subunits. *Biol. Reprod.* 79: 1021-1029.
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CHROMOSOMAL LOCATION

Genetic locus: Rgs22 (mouse) mapping to 15 B3.1.

PRODUCT

RGS22 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RGS22 shRNA Plasmid (m): sc-152841-SH and RGS22 shRNA (m) Lentiviral Particles: sc-152841-V as alternate gene silencing products.

For independent verification of RGS22 (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-152841A and sc-152841B.

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.

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

RGS22 siRNA (m) is recommended for the inhibition of RGS22 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 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 RGS22 gene expression knockdown using RT-PCR Primer: RGS22 (m)-PR: sc-152841-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.