SANTA CRUZ BIOTECHNOLOGY, INC.

GMPR1 siRNA (h): sc-95581

BACKGROUND

GMPR1 (GMP reductase 1), also known as GMPR or guanosine 5'-monophosphate oxidoreductase 1, is a 345 amino acid member of the IMPDH/GMPR family. GMPR1 catalyzes the irreversible NADPH-dependent reductive deamination of GMP to IMP. GMPR1 is also involved in the conversion of nucleobase, nucleoside and nucleotide derivatives of G to A nucleotides, and maintains the intracellular balance of A and G nucleotides. Existing as a homotetramer, GMPR1 is highly expressed in heart, skeletal muscle and kidney, with lower levels in colon, thymus and peripheral blood leukocyte. The gene encoding GMPR1 maps to human chromosome 6p22.3. Human chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GMPR (human) mapping to 6p22.3.

PROTOCOLS

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

PRODUCT

GMPR1 siRNA (h) 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 GMPR1 shRNA Plasmid (h): sc-95581-SH and GMPR1 shRNA (h) Lentiviral Particles: sc-95581-V as alternate gene silencing products.

For independent verification of GMPR1 (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-95581A, sc-95581B and sc-95581C.

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

GMPR1 siRNA (h) is recommended for the inhibition of GMPR1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GMPR1 gene expression knockdown using RT-PCR Primer: GMPR1 (h)-PR: sc-95581-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.