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SANTA CRUZ BIOTECHNOLOGY, INC.

GTPBP3 siRNA (m): sc-145828

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Small G proteins act as molecular switches for regulation of a variety of cellular processes, such as nuclear transport, signal transduction, membrane trafficking and protein synthesis. GTPBP3 (GTP-binding protein 3), also known as tRNA modification GTPase GTPBP3, mitochondrial, MSS1 or MTGP1 (mitochondrial GTP-binding protein 1), is a 492 amino acid protein belonging to the Era/MnmE GTP-binding protein family and MnmE subfamily. Localizing to the mitochondrion, GTPBP3 is ubiquitously expressed and may play a role in mitochondrial tRNA modification at the wobble uridine base. The gene encoding GTPBP3 maps to human chromosome 8 B3.3, polymorphisms in this region may influence aminoglycoside-induced deafness (AID), a disorder characterized by varying degrees of deafness. GTPBP3 exists as three isoforms due to alternative splicing events.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Gtpbp3 (mouse) mapping to 8 B3.3.

PROTOCOLS

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

PRODUCT

GTPBP3 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 GTPBP3 shRNA Plasmid (m): sc-145828-SH and GTPBP3 shRNA (m) Lentiviral Particles: sc-145828-V as alternate gene silencing products.

For independent verification of GTPBP3 (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-145828A, sc-145828B and sc-145828C.

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

GTPBP3 siRNA (m) is recommended for the inhibition of GTPBP3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GTPBP3 gene expression knockdown using RT-PCR Primer: GTPBP3 (m)-PR: sc-145828-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.