SANTA CRUZ BIOTECHNOLOGY, INC.

GTPBP5 siRNA (h): sc-75214

BACKGROUND

Small G proteins act as molecular switches for regulation of variety of cellular processes, such as nuclear transport, signal transduction, membrane trafficking and protein synthesis. GTPBP5 (GTP-binding protein 5), also known as OBGH1, is a 406 amino acid small G protein that contains an amino-terminal mitochondria-localization signal. Knockdown of GTPBP5 mRNA results in abnormal nuclear morphologies and elongated mitochondria. *In vitro* studies demonstrate that GTPBP5 exhibits GTPase activity, cycling between an active GTP-bound state and an inactive GDP-bound state. Activation of GTPases usually results in rearrangements of filamentous actin and the formation of actin stress fibers.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GTPBP5 (human) mapping to 20q13.33.

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.

PRODUCT

GTPBP5 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 GTPBP5 shRNA Plasmid (h): sc-75214-SH and GTPBP5 shRNA (h) Lentiviral Particles: sc-75214-V as alternate gene silencing products.

For independent verification of GTPBP5 (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-75214A, sc-75214B and sc-75214C.

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

GTPBP5 siRNA (h) is recommended for the inhibition of GTPBP5 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 GTPBP5 gene expression knockdown using RT-PCR Primer: GTPBP5 (h)-PR: sc-75214-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.