SANTA CRUZ BIOTECHNOLOGY, INC.

GrpEL1 siRNA (h): sc-89323

BACKGROUND

GrpEL1 (GrpE protein homolog 1, mitochondrial), also known as HMGE or Mt-GrpE#1, is a 271 amino acid protein that belongs to the GrpE family and is a likely member of the PAM complex. Consisting of Tim44, Tim14, HSP 70, Magmas, GrpEL1 and GrpEL2, the PAM complex plays an essential role in the ATP-dependent translocation of transit peptide-containing proteins to the mitochondrial matrix from the inner membrane. GrpEL1 regulates the nucleotide-dependent binding of mitochondrial HSP 70 to substrate proteins and stimulates its ATPase activity. The gene encoding GrpEL1 maps to human chromosome 4p16.1, which represents approximately 6% of the human genome, contains nearly 900 genes, and is associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GRPEL1 (human) mapping to 4p16.1.

PRODUCT

GrpEL1 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 GrpEL1 shRNA Plasmid (h): sc-89323-SH and GrpEL1 shRNA (h) Lentiviral Particles: sc-89323-V as alternate gene silencing products.

For independent verification of GrpEL1 (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-89323A, sc-89323B and sc-89323C.

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

GrpEL1 siRNA (h) is recommended for the inhibition of GrpEL1 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 GrpEL1 gene expression knockdown using RT-PCR Primer: GrpEL1 (h)-PR: sc-89323-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.