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GrpEL2 siRNA (m): sc-145782

BACKGROUND

GrpEL2 (GrpE protein homolog 2) is a 225 amino acid mitochondrial matrix protein and component 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. GrpEL2 regulates the nucleotide-dependent binding of mitochondrial HSP70 to substrate proteins and stimulates its ATPase activity. The gene encoding GrpEL2 maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Grpel2 (mouse) mapping to 18 E1.

PROTOCOLS

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

PRODUCT

GrpEL2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GrpEL2 shRNA Plasmid (m): sc-145782-SH and GrpEL2 shRNA (m) Lentiviral Particles: sc-145782-V as alternate gene silencing products.

For independent verification of GrpEL2 (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-145782A, sc-145782B and sc-145782C.

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

GrpEL2 siRNA (m) is recommended for the inhibition of GrpEL2 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 GrpEL2 gene expression knockdown using RT-PCR Primer: GrpEL2 (m)-PR: sc-145782-PR (20 μ l). 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.