

GHITM siRNA (r): sc-270569

BACKGROUND

GHITM (growth hormone inducible transmembrane protein), also known as DERP2 (dermal papilla-derived protein 2), TMIM5 (transmembrane BAX inhibitor motif-containing protein 5), My021, MICS1 or PTD010, is a 345 amino acid multi-pass membrane protein belonging to the BI-1 (Bax inhibitor-1) family. Integral membrane proteins containing multiple membrane-spanning segments, members of the BI-1 are suggested to play a role in the regulation of cell death pathways and localize primarily to intracellular membranes. GHITM is involved in mitochondrial morphology and cytochrome c release, and is encoded by a gene located on human chromosome 10q23.1. Making up 4.5% of the human genome, chromosome 10 encodes roughly 800 genes including PTEN, a tumor suppressor gene that has been linked to the development of Cowden syndrome. The chromosome 10 encoded gene ERCC6 is important for DNA repair and is linked to Cockayne syndrome which is characterized by extreme photosensitivity and premature aging.

REFERENCES

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3. Zhou, J., Zhu, T., Hu, C., Li, H., Chen, G., Xu, G., Wang, S., Zhou, J. and Ma, D. 2008. Comparative genomics and function analysis on BI-1 family. *Comput. Biol. Chem.* 32: 159-162.
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5. Yin, Y. and Shen, W.H. 2008. PTEN: a new guardian of the genome. *Oncogene* 27: 5443-5453.

CHROMOSOMAL LOCATION

Genetic locus: Ghitm (rat) mapping to 16p14.

PRODUCT

GHITM siRNA (r) 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 GHITM shRNA Plasmid (r): sc-270569-SH and GHITM shRNA (r) Lentiviral Particles: sc-270569-V as alternate gene silencing products.

For independent verification of GHITM (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270569A, sc-270569B and sc-270569C.

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

GHITM siRNA (r) is recommended for the inhibition of GHITM expression in rat 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 GHITM gene expression knockdown using RT-PCR Primer: GHITM (r)-PR: sc-270569-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.

PROTOCOLS

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