SANTA CRUZ BIOTECHNOLOGY, INC.

MGST3 siRNA (m): sc-62613

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The Power to Question

BACKGROUND

MGST3 (microsomal glutathione S-transferase 3) is a 152 amino acid protein encoded by the human gene MGST3. 5-lipoxygenase-activating protein (FLAP), leukotriene C_4 synthase (LTC4S) and microsomal glutathione S-transferase 2 (MGST2) are members of a family of small, membrane-associated proteins. Like FLAP, LTC4S and MGST2, MGST3 contains three predicted hydrophobic regions separated by hydrophilic domains. MGST3 shares 36% amino acid sequence identity with MGST2, 27% identity with LTC4S, 22% identity with MGST1 and 20% identity with FLAP. MGST3 also exhibits glutathione-dependent peroxidase activity and LTC4S activity. MGST3 is expressed in a wide variety of human tissues, with the highest expression in heart, skeletal muscle and adrenal cortex.

REFERENCES

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2. Thameem, F., Yang, X., Permana, P.A., Wolford, J.K., Bogardus, C. and Prochazka, M. 2003. Evaluation of the microsomal glutathione S-transferase 3 (MGST3) locus on 1q23 as a Type 2 diabetes susceptibility gene in Pima Indians. Hum. Genet. 113: 353.
3. Nebert, D.W. and Vasiliou, V. 2004. Analysis of the glutathione S-transferase (GST) gene family. Hum. Genomics 1: 460-464.
4. Schröder, O., Sjöström, M., Qiu, H., Jakobsson, P.J. and Haeggström, J.Z. 2004. Microsomal glutathione S-transferases: selective upregulation of leukotriene C_4 synthase during lipopolysaccharide-induced pyresis. Cell. Mol. Life Sci. 62: 87-94.
5. Efferth, T. and Volm, M. 2005. Glutathione-related enzymes contribute to resistance of tumor cells and low toxicity in normal organs to artesunate. In Vivo 19: 225-232.
6. Werz, O. and Steinhilber, D. 2006. Therapeutic options for 5-lipoxygenase inhibitors. Pharmacol. Ther. 112: 701-718.

CHROMOSOMAL LOCATION

Genetic locus: Mgst3 (mouse) mapping to 1 H2.3.

PRODUCT

MGST3 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 MGST3 shRNA Plasmid (m): sc-62613-SH and MGST3 shRNA (m) Lentiviral Particles: sc-62613-V as alternate gene silencing products.

For independent verification of MGST3 (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-62613A, sc-62613B and sc-62613C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

MGST3 siRNA (m) is recommended for the inhibition of MGST3 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 MGST3 gene expression knockdown using RT-PCR Primer: MGST3 (m)-PR: sc-62613-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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