SANTA CRUZ BIOTECHNOLOGY, INC.

GSTM2 siRNA (m): sc-145810

BACKGROUND

Members of the glutathione S-transferase (GST) family of proteins function in the detoxification of xenobiotics to protect cells against toxicant-induced damage. There are eight families of GST proteins, namely α, ζ, θ, κ, μ, π, σ and ω, each of which are composed of proteins that have a variety of functions throughout the cell. The GSTM proteins (GSTM1-GSTM5 in human and GSTM1-GSTM7 in mouse) are members of the μ class of enzymes that conjugate with glutathione and function in the detoxification of carcinogens, environmental toxins and products of oxidative stress.

REFERENCES

1. McGuire, S., et al. 1997. Increased levels of glutathione S transferases and appearance of novel α class isoenzymes in kidneys of mice exposed to mercuric chloride. I. Biochemical and immunohistochemical studies. Nephron 77: 452-460.
2. Massey, T.E., et al. 2000. Mechanisms of aflatoxin B1 lung tumorigenesis. Exp. Lung Res. 26: 673-683.
3. Raza, H., et al. 2002. Multiple isoforms of mitochondrial glutathione S-transferases and their differential induction under oxidative stress. Biochem. J. 366: 45-55.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 138380. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Breton, C.V., et al. 2007. GSTM1 and APE1 genotypes affect arsenic-induced oxidative stress: a repeated measures study. Environ. Health 6: 39.
6. Shang, W., et al. 2008. Expressions of glutathione S-transferase α, μ, and π in brains of medically intractable epileptic patients. BMC Neurosci. 9: 67.
7. Lucena, M.I., et al. 2008. Glutathione S-transferase μ1 and τ1 null genotypes increase susceptibility to idiosyncratic drug-induced liver injury. Hepatology 48: 588-596.

CHROMOSOMAL LOCATION

Genetic locus: Gstm2 (mouse) mapping to 3 F2.3.

PRODUCT

GSTM2 siRNA (m) is a target-specific 19-25 nt siRNA 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 GSTM2 shRNA Plasmid (m): sc-145810-SH and GSTM2 shRNA (m) Lentiviral Particles: sc-145810-V as alternate gene silencing products.

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.

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

GSTM2 siRNA (m) is recommended for the inhibition of GSTM2 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 GSTM2 gene expression knockdown using RT-PCR Primer: GSTM2 (m)-PR: sc-145810-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.