

GSTM2 siRNA (h): sc-105426

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

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- Raza, H., et al. 2002. Multiple isoforms of mitochondrial glutathione S-transferases and their differential induction under oxidative stress. *Biochem. J.* 366: 45-55.
- 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/>
- Breton, C.V., et al. 2007. GSTM1 and APE1 genotypes affect arsenic-induced oxidative stress: a repeated measures study. *Environ. Health* 6: 39.
- 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.
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CHROMOSOMAL LOCATION

Genetic locus: GSTM2 (human) mapping to 1p13.3.

PRODUCT

GSTM2 siRNA (h) is a pool of 2 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 GSTM2 shRNA Plasmid (h): sc-105426-SH and GSTM2 shRNA (h) Lentiviral Particles: sc-105426-V as alternate gene silencing products.

For independent verification of GSTM2 (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-105426A and sc-105426B.

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 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

GSTM2 siRNA (h) is recommended for the inhibition of GSTM2 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 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.

GENE EXPRESSION MONITORING

GSTM2 (E-9): sc-376486 is recommended as a control antibody for monitoring of GSTM2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GSTM2 gene expression knockdown using RT-PCR Primer: GSTM2 (h)-PR: sc-105426-PR (20 μ l). 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.