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GSTT1 siRNA (m): sc-44460

BACKGROUND

The GST superfamily is made up of several subfamilies. Glutathione S-transferase P (GSTP1) belongs to the Pi subfamily and is involved in the conjugation of reduced glutathione to a variety of endogenous and exogenous hydrophobic electrophiles. Glutathione S-transferase Mu 1 (GSTM1) is a cytoplasmic liver protein belonging to the Mu family and has the same basic functions as GSTP1-1. Glutathione S-transferase θ 1 (GSTT1), a cytoplasmic homodimer belonging to the Theta family, is expressed in erythrocytes. It is active in the reduced glutathione conjugation and also displays glutathione peroxidase activity with cumene hydroperoxide.

REFERENCES

1. Meyer, D.J., et al. 1991. Theta, a new class of glutathione transferases purified from rat and man. *Biochem. J.* 274: 409-414.
2. Pemble, S., et al. 1994. Human glutathione S-transferase θ (GSTT1): cDNA cloning and the characterization of a genetic polymorphism. *Biochem. J.* 300: 271-276.
3. Mainwaring, G.W., et al. 1996. The distribution of θ -class glutathione S-transferases in the liver and lung of mouse, rat and human. *Biochem. J.* 318: 297-303.
4. Jemth, P. and Mannervik, B. 1997. Kinetic characterization of recombinant human glutathione transferase T1-1, a polymorphic detoxication enzyme. *Arch. Biochem. Biophys.* 348: 247-254.
5. Sprenger, R., et al. 2000. Characterization of the glutathione S-transferase GSTT1 deletion: discrimination of all genotypes by polymerase chain reaction indicates a trimodular genotype-phenotype correlation. *Pharmacogenetics* 10: 557-565.

CHROMOSOMAL LOCATION

Genetic locus: *Gstt1* (mouse) mapping to 10 C1.

PRODUCT

GSTT1 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 GSTT1 shRNA Plasmid (m): sc-44460-SH and GSTT1 shRNA (m) Lentiviral Particles: sc-44460-V as alternate gene silencing products.

For independent verification of GSTT1 (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-44460A, sc-44460B and sc-44460C.

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 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

GSTT1 siRNA (m) is recommended for the inhibition of GSTT1 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.

GENE EXPRESSION MONITORING

GSTT (D-1): sc-393035 is recommended as a control antibody for monitoring of GSTT1 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 GSTT1 gene expression knockdown using RT-PCR Primer: GSTT1 (m)-PR: sc-44460-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.