SANTA CRUZ BIOTECHNOLOGY, INC.

GSTK1 siRNA (m): sc-145809

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. GSTK1 (glutathione S-transferase κ 1), also known as glutathione S-transferase subunit 13 (GST 13-13) or GSTK1-1, is a 226 amino acid ubiquitously expressed protein belonging to the κ class of the GST superfamily that functions in cellular detoxification. Localizing to peroxisome, GSTK1 exists as a homodimer that catalyzes the conjugation of glutathione to a number of hydrophobic substrates leading to their removal from the cell.

REFERENCES

1. Pemble, S.E., Wardle, A.F. and Taylor, J.B. 1996. Glutathione S-transferase class κ: characterization by the cloning of rat mitochondrial GST and identification of a human homologue. Biochem. J. 319 (Pt 3): 749-754.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602321. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Jowsey, I.R., Thomson, R.E., Orton, T.C., Elcombe, C.R. and Hayes, J.D. 2003. Biochemical and genetic characterization of a murine class κ glutathione S-transferase. Biochem. J. 373 (Pt 2): 559-569.
4. Robinson, A., Huttley, G.A., Booth, H.S. and Board, P.G. 2004. Modelling and bioinformatics studies of the human κ-class glutathione transferase predict a novel third glutathione transferase family with similarity to prokaryotic 2-hydroxychromene-2-carboxylate isomerases. Biochem. J. 379 (Pt 3): 541-552.
5. Nebert, D.W. and Vasiliou, V. 2004. Analysis of the glutathione S-transferase (GST) gene family. Hum. Genomics 1: 460-464.

CHROMOSOMAL LOCATION

Genetic locus: Gstk1 (mouse) mapping to 6 B2.1.

PRODUCT

GSTK1 siRNA (m) 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 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GSTK1 shRNA Plasmid (m): sc-145809-SH and GSTK1 shRNA (m) Lentiviral Particles: sc-145809-V as alternate gene silencing products.

For independent verification of GSTK1 (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-145809A and sc-145809B.

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

GSTK1 siRNA (m) is recommended for the inhibition of GSTK1 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 GSTK1 gene expression knockdown using RT-PCR Primer: GSTK1 (m)-PR: sc-145809-PR (20 μl). 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.