SANTA CRUZ BIOTECHNOLOGY, INC.

GSH-2 siRNA (h): sc-89137

BACKGROUND

The homeobox DNA-binding domain is a 60 amino acid motif that is conserved among many species and functions to bind DNA via a helix-turn-helix structure. The homeobox DNA-binding domain is commonly found in proteins that play a role in development and are involved in transcriptional regulation and the control of gene expression. GSH-2 (GS homeobox-2), also known as GSX2, is a 304 amino acid protein that contains one homeobox DNA-binding domain. Localized to the nucleus, GSH-2 is thought to function as a transcription factor that selectively binds the DNA sequence 5'-CNAATTAG-3'. Specifically, GSH-2 may be involved in neuronal differentiation, playing a role in spinal cord development.

REFERENCES

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2. Cools, J., et al. 2002. Evidence for position effects as a variant ETV6-mediated leukemogenic mechanism in myeloid leukemias with a t(4;12)(q11-q12;p13) or t(5;12)(q31;p13). Blood 99: 1776-1784.
3. Dauwerse, J.G., et al. 2002. Heterozygous truncating mutation in the human homeobox gene GSH2 has no discernable phenotypic effect. J. Med. Genet. 39: 686-688.
4. Kriks, S., et al. 2005. GSH-2 is required for the repression of Ngn1 and specification of dorsal interneuron fate in the spinal cord. Development 132: 2991-3002.
5. Fogarty, M., et al. 2007. Spatial genetic patterning of the embryonic neuroepithelium generates GABAergic interneuron diversity in the adult cortex. J. Neurosci. 27: 10935-10946.
6. Von Ohlen, T., et al. 2007. Conserved properties of the *Drosophila* homeodomain protein, Ind. Mech. Dev. 124: 925-934.

CHROMOSOMAL LOCATION

Genetic locus: GSX2 (human) mapping to 4q12.

PRODUCT

GSH-2 siRNA (h) 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 GSH-2 shRNA Plasmid (h): sc-89137-SH and GSH-2 shRNA (h) Lentiviral Particles: sc-89137-V as alternate gene silencing 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

GSH-2 siRNA (h) is recommended for the inhibition of GSH-2 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 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 GSH-2 gene expression knockdown using RT-PCR Primer: GSH-2 (h)-PR: sc-89137-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.

PROTOCOLS

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