SANTA CRUZ BIOTECHNOLOGY, INC.

DHDH siRNA (h): sc-97376

BACKGROUND

DHDH (*trans*-1,2-dihydrobenzene-1,2-diol dehydrogenase), also known as 2DD, D-xylose 1-dehydrogenase, D-xylose-NADP dehydrogenase or dimeric dihydrodiol dehydrogenase, is a 334 amino acid protein belonging to the gfo/idh/mocA family. DHDH catalyzes the $NADP^+$-linked oxidation of *trans*-dihydrodiols of aromatic hydrocarbons to the corresponding catechols. DHDH also catalyzes the conversion of D-xylose and $NADP^+$ to D-xylono-1,5-lactone and NADPH. Expressed in small intestine, DHDH forms a homodimer. The gene encoding DHDH maps to human chromosome 19q13.33 and mouse chromosome 7 B4. Human chromosome 19 consists of approximately 63 million bases, makes up over 2% of human genomic DNA and is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors.

REFERENCES

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2. Asada, Y., et al. 2000. Roles of His-79 and Tyr-180 of D-xylose/dihydrodiol dehydrogenase in catalytic function. Biochem. Biophys. Res. Commun. 278: 333-337.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606377. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/606377
4. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. Nature 428: 529-535.
5. Parham, P. 2005. Immunogenetics of killer cell immunoglobulin-like receptors. Mol. Immunol. 42: 459-462.
6. Carbone, V., et al. 2008. Structural and functional features of dimeric dihydrodiol dehydrogenase. Cell. Mol. Life Sci. 65: 1464-1474.
7. Chang, H.C., et al. 2009. Overexpression of dihydrodiol dehydrogenase as a prognostic marker in resected gastric cancer patients. Dig. Dis. Sci. 54: 342-347.

CHROMOSOMAL LOCATION

Genetic locus: DHDH (human) mapping to 19q13.3.

PRODUCT

DHDH 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 DHDH shRNA Plasmid (h): sc-97376-SH and DHDH shRNA (h) Lentiviral Particles: sc-97376-V as alternate gene silencing products.

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

DHDH siRNA (h) is recommended for the inhibition of DHDH 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 DHDH gene expression knockdown using RT-PCR Primer: DHDH (h)-PR: sc-97376-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.