SANTA CRUZ BIOTECHNOLOGY, INC.

mEH siRNA (m): sc-40540

BACKGROUND

Epoxide hydrolases (EHs) are biotransformation enzymes that catalyze the hydrolysis of arene and aliphatic epoxides to less reactive and more water soluble dihydrodiols by the *trans* addition of water. The enzymatic hydration is essentially irreversible and produces mainly metabolites of lower reactivity that can be conjugated and excreted, and, therefore, are generally regarded as detoxifying. Microsomal EH (mEH) is one of many enzymes involved in the metabolism of endogenous and exogenous toxicants such as tobacco-derived carcinogens. mEH exhibits a broad substrate specificity, while the soluble EH (sEH) is an enzyme with a "complementary" substrate specificity to mEH. The mEH protein is encoded by the EPHX1 gene, which maps to chromosome 1q42.12. Polymorphism of the EPHX1 gene is a risk factor ovarian cancer and hepatocellular carcinoma.

REFERENCES

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2. Seidegard, J. and Ekstrom, G. 1997. The role of human glutathione transferases and epoxide hydrolases in the metabolism of xenobiotics. Environ. Health Perspect. 105: 791-799.
3. Hartsfield, J.K. Jr., Hickman, T.A., Everett, E.T., Shaw, G.M., Lammer, E.J. and Finnell, R.A. 2001. Analysis of the EPHX1 113 polymorphism and GSTM1 homozygous null polymorphism and oral clefting associated with maternal smoking. Am. J. Med. Genet. 102: 21-24.
4. Davis, B.B., Thompson, D.A., Howard, L.L., Morisseau, C., Hammock, B.D. and Weiss, R.H. 2002. Inhibitors of soluble epoxide hydrolase attenuate vascular smooth muscle cell proliferation. Proc. Natl. Acad. Sci. USA 99: 2222-2227.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 132810. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. SWISS-PROT/TrEMBL (P07099). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: Ephx1 (mouse) mapping to 1 H4.

PRODUCT

mEH 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see mEH shRNA Plasmid (m): sc-40540-SH and mEH shRNA (m) Lentiviral Particles: sc-40540-V as alternate gene silencing products.

For independent verification of mEH (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-40540A, sc-40540B and sc-40540C.

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

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

GENE EXPRESSION MONITORING

mEH (17): sc-135984 is recommended as a control antibody for monitoring of mEH 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor mEH gene expression knockdown using RT-PCR Primer: mEH (m)-PR: sc-40540-PR (20 µl, 437 bp). 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.