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SANTA CRUZ BIOTECHNOLOGY, INC.

sEH siRNA (m): sc-44392

BACKGROUND

Epoxide hydrolase (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. Soluble EH (sEH) is a ubiquitous mammalian enzyme for which liver and kidney are reported to have the highest activity. Microsomal EH (mEH) exhibits a broad substrate specificity, while sEH is an enzyme with a "complementary" substrate specificity to mEH. sEH is expressed in 3T3 and HeLa cells. sEH is encoded by the EPHX2 gene, which maps to chromosome 8p21.2.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 1995. Johns Hopkins University, Baltimore, MD. MIM Number: 132811. World Wide Web URL: http://www.ncbi.nlm. nih.gov/omim/
2. Lancaster, J.M., et al. 1996. Microsomal epoxide hydrolase polymorphism as a risk factor for ovarian cancer. Mol. Carcinog. 17: 160-162.
3. Seidegard, J., et al. 1997. The role of human glutathione transferases and epoxide hydrolases in the metabolism of xenobiotics. Environ. Health Perspect. 105: 791-799.
4. Draper, A.J., et al. 1999. Soluble epoxide hydrolase in rat inflammatory cells is indistinguishable from soluble epoxide hydrolase in rat liver. Toxicol. Sci. 50: 30-35.
5. Mullen, R.T., et al. 1999. Differential subcellular localization of endogenous and transfected soluble epoxide hydrolase in mammalian cells: evidence for isozyme variants. FEBS Lett. 445: 301-305.
6. Davis, B.B., et al. 2002. Inhibitors of soluble epoxide hydrolase attenuate vascular smooth muscle cell proliferation. Proc. Natl. Acad. Sci. USA 99: 2222-2227.
7. SWISS-PROT/TrEMBL (P07099). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: Ephx2 (mouse) mapping to 14 D1.

PRODUCT

sEH 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 sEH shRNA Plasmid (m): sc-44392-SH and sEH shRNA (m) Lentiviral Particles: sc-44392-V as alternate gene silencing products.

For independent verification of sEH (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-44392A, sc-44392B and sc-44392C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

sEH siRNA (m) is recommended for the inhibition of sEH 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

sEH (A-5): sc-166961 is recommended as a control antibody for monitoring of sEH 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 sEH gene expression knockdown using RT-PCR Primer: sEH (m)-PR: sc-44392-PR (20 µl, 565 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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