SANTA CRUZ BIOTECHNOLOGY, INC.

FMO5 siRNA (m): sc-105366

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Flavin containing monooxygenase family consists of five gene products, FMO1-5, that are major enzymatic oxidants involved in the metabolism of various therapeutics. Localizing to microsomal and endoplasmic reticulum membranes, FMO5 (flavin containing monooxygenase 5), also known as dimethylaniline monooxygenase [N-oxide-forming] 5, hepatic flavin-containing monooxygenase 5 or dimethylaniline oxidase 5, is a 533 amino acid protein belonging to the FMO family. Expressed in adult and fetal liver, FMO5 is unlike other FMO family members because it does not function as a drug-metabolizing enzyme. FMO5 binds FAD as a cofactor and is encoded by a gene located on human chromosome 1q21.1.

REFERENCES

1. Overby, L.H., et al. 1995. Characterization of flavin-containing monooxygenase 5 (FMO5) cloned from human and guinea pig: evidence that the unique catalytic properties of FMO5 are not confined to the rabbit ortholog. Arch. Biochem. Biophys. 317: 275-284.
2. Phillips, I.R., et al. 1995. The molecular biology of the flavin-containing monooxygenases of man. Chem. Biol. Interact. 96: 17-32.
3. McCombie, R.R., et al. 1996. Localization of human flavin-containing monooxygenase genes FMO2 and FMO5 to chromosome 1q. Genomics 34: 426-429.
4. Overby, L.H., et al. 1997. Quantitation and kinetic properties of hepatic microsomal and recombinant flavin-containing monooxygenases 3 and 5 from humans. Chem. Biol. Interact. 106: 29-45.
5. Gelb, B.D., et al. 1997. Physical mapping of the human connexin 40 (GJA5), flavin-containing monooxygenase 5, and natriuretic peptide receptor a genes on 1q21. Genomics 39: 409-411.
6. Miller, M.M., et al. 1997. Progesterone regulated expression of flavin-containing monooxygenase 5 by the B-isoform of progesterone receptors: implications for tamoxifen carcinogenicity. J. Clin. Endocrinol. Metab. 82: 2956-2961.
7. Krueger, S.K., et al. 2005. Mammalian flavin-containing monooxygenases: structure/function, genetic polymorphisms and role in drug metabolism. Pharmacol. Ther. 106: 357-387.

CHROMOSOMAL LOCATION

Genetic locus: Fmo5 (mouse) mapping to 3 F2.2.

PRODUCT

FMO5 siRNA (m) 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 FMO5 shRNA Plasmid (m): sc-105366-SH and FMO5 shRNA (m) Lentiviral Particles: sc-105366-V as alternate gene silencing products.

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

FMO5 siRNA (m) is recommended for the inhibition of FMO5 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 FMO5 gene expression knockdown using RT-PCR Primer: FMO5 (m)-PR: sc-105366-PR (20 µl). 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.