SANTA CRUZ BIOTECHNOLOGY, INC.

FMO4 siRNA (h): sc-78814

BACKGROUND

The flavin-containing monooxygenase (FMO) family consists of five gene products, FMO1-5, that are major enzymatic oxidants involved in the metabolism of various therapeutics. Amino-trimethylamine (TMA), a diet-derived chemical from eggs, fish and legumes, is metabolized by FMOs. A polymorphism in genes encoding FMOs leads to a reduced TMA amino-oxidation capacity, leading to the excretion of relatively large amounts of TMA in urine, sweat and breath. This condition is known as trimethylaminuria, also known as fish-odor syndrome because individuals with this polymorphism exhibit a fishy body odor due to the free, unmetabolized amine. Located in the liver, FMO4 (flavin-containing monooxygenase 4), also known as Dimethylaniline monooxygenase and originally termed FMO2, is a 558 amino acid endoplasmic reticular protein that shares about fifty-percent sequence similarity with FMO1.

REFERENCES

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7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 136131. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Zhang, J., et al. 2009. Hepatic flavin-containing monooxygenase gene regulation in different mouse inflammation models. Drug Metab. Dispos. 37: 462-468.
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CHROMOSOMAL LOCATION

Genetic locus: FMO4 (human) mapping to 1q24.3.

PROTOCOLS

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

PRODUCT

FMO4 siRNA (h) 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 FMO4 shRNA Plasmid (h): sc-78814-SH and FMO4 shRNA (h) Lentiviral Particles: sc-78814-V as alternate gene silencing products.

For independent verification of FMO4 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-78814A, sc-78814B and sc-78814C.

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

FMO4 siRNA (h) is recommended for the inhibition of FMO4 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 FMO4 gene expression knockdown using RT-PCR Primer: FMO4 (h)-PR: sc-78814-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.