

FMO5 siRNA (h): sc-88012

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

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- 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.
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- 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 (human) mapping to 1q21.1.

PRODUCT

FMO5 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see FMO5 shRNA Plasmid (h): sc-88012-SH and FMO5 shRNA (h) Lentiviral Particles: sc-88012-V as alternate gene silencing products.

For independent verification of FMO5 (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-88012A, sc-88012B and sc-88012C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

FMO5 siRNA (h) is recommended for the inhibition of FMO5 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 μ M in 66 μ l. 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

FMO5 (E-8): sc-393732 is recommended as a control antibody for monitoring of FMO5 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 FMO5 gene expression knockdown using RT-PCR Primer: FMO5 (h)-PR: sc-88012-PR (20 μ l). 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.