

CYP4F11 siRNA (h): sc-63345

BACKGROUND

The cytochrome P450 proteins (CYPs) are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on their sequence similarities. CYP4F11 is an isoform of the cytochrome P450 4F protein and is expressed mainly in human liver, followed by kidney, heart and skeletal muscle. CYP4F11 contains 524 amino acid residues that share 80.0, 82.3 and 79.2% identity to CYP4F2, CYP4F3 and CYP4F8 amino acid sequences, respectively. CYP4F11 has catalytic properties towards endogenous eicosanoids as well as some clinically relevant drugs, and is able to metabolize large molecules such as erythromycin.

REFERENCES

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2. Cui, X., Nelson, D.R. and Strobel, H.W. 2000. A novel human cytochrome P450 4F isoform (CYP4F11): cDNA cloning, expression, and genomic structural characterization. *Genomics* 68: 161-166.
3. Bylund, J., Bylund, M. and Oliw, E.H. 2001. cDNA cloning and expression of CYP4F12, a novel human cytochrome P450. *Biochem. Biophys. Res. Commun.* 280: 892-897.
4. Kalsotra, A., Turman, C.M., Kikuta, Y. and Strobel, H.W. 2004. Expression and characterization of human cytochrome P450 4F11: putative role in the metabolism of therapeutic drugs and eicosanoids. *Toxicol. Appl. Pharmacol.* 199: 295-304.
5. Kumarakulasingham, M., Rooney, P.H., Dundas, S.R., Telfer, C., Melvin, W.T., Curran, S. and Murray, G.I. 2005. Cytochrome P450 profile of colorectal cancer: identification of markers of prognosis. *Clin. Cancer Res.* 11: 3758-3765.

CHROMOSOMAL LOCATION

Genetic locus: CYP4F11 (human) mapping to 19p13.12.

PRODUCT

CYP4F11 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 CYP4F11 shRNA Plasmid (h): sc-63345-SH and CYP4F11 shRNA (h) Lentiviral Particles: sc-63345-V as alternate gene silencing products.

For independent verification of CYP4F11 (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-63345A, sc-63345B and sc-63345C.

PROTOCOLS

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

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

CYP4F11 siRNA (h) is recommended for the inhibition of CYP4F11 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

CYP4F11 (F21 P6 F5): sc-53619 is recommended as a control antibody for monitoring of CYP4F11 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 CYP4F11 gene expression knockdown using RT-PCR Primer: CYP4F11 (h)-PR: sc-63345-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.