SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2C8 siRNA (h): sc-90787

BACKGROUND

The cytochrome P450 proteins (CYPs) are monooxygenases that catalyze reactions involved in both drug metabolism and in the synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies, such as CYP1A and CYP2A, based on their sequence similarities. CYP2C8 (cytochrome P450, family 2, subfamily C, polypeptide 8), CPC8 or MP-12/MP-20, is a 490 amino acid protein that localizes to the membrane of both the endoplasmic reticulum and the microsome and belongs to the cytochrome P450 family. Using heme groups as cofactors, CYP2C8 functions as a heme-thiolate monooxygenase that is involved in NADPH-dependent electron transport and is able to oxidize several compounds, including steroids, fatty acids, and xenobiotics.

REFERENCES

1. Gray, I.C., et al. 1995. A 2.4-megabase physical map spanning the CYP2C gene cluster on chromosome 10q24. Genomics 28: 328-332.
2. Fisslthaler, B., et al. 1999. Cytochrome P450 2C is an EDHF synthase in coronary arteries. Nature 401: 493-497.
3. Thum, T., et al. 2000. Gene expression in distinct regions of the heart. Lancet 355: 979-983.
4. Ishikawa, C., et al. 2004. A frameshift variant of CYP2C8 was identified in a patient who suffered from rhabdomyolysis after administration of cerivastatin. J. Hum. Genet. 49: 582-585.
5. Singh, R., et al. 2008. Functional role of Ile264 in CYP2C8: mutations affect haem incorporation and catalytic activity. Drug Metab. Pharmacokinet. 23: 165-174.
6. Kirchheiner, J., et al. 2008. Impact of genetic polymorphisms in CYP2C8 and rosiglitazone intake on the urinary excretion of dihydroxyeicosatrienoic acids. Pharmacogenomics 9: 277-288.
7. Kara niewicz-Lada, M., et al. 2009. Pharmacokinetic studies of enantiomers of ibuprofen and its chiral metabolites in humans with different variants of genes coding CYP2C8 and CYP2C9 isoenzymes. Xenobiotica 39: 476-485.

CHROMOSOMAL LOCATION

Genetic locus: CYP2C8 (human) mapping to 10q23.33.

PRODUCT

CYP2C8 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 CYP2C8 shRNA Plasmid (h): sc-90787-SH and CYP2C8 shRNA (h) Lentiviral Particles: sc-90787-V as alternate gene silencing products.

For independent verification of CYP2C8 (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-90787A, sc-90787B and sc-90787C.

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

CYP2C8 siRNA (h) is recommended for the inhibition of CYP2C8 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 CYP2C8 gene expression knockdown using RT-PCR Primer: CYP2C8 (h)-PR: sc-90787-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.