SANTA CRUZ BIOTECHNOLOGY, INC.

CYP26B1 siRNA (m): sc-142665

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 sequence similarity. CYP26B1, also referred to as cytochrome P450 retinoic acid-inactivating 2 (P450RAI2) or CYP26A2, is a 512 amino acid major retinoic acid catabolic enzyme. CYP26B1 is involved in the specific inactivation of all-*trans*-retinoic acid (RA) as well as the generation of several hydroxylated forms of RA. Localized to the endoplasmic reticulum membrane and microsome membrane, CYP26B1 is expressed in brain, with highest expression in cerebellum and pons.

REFERENCES

1. Nelson, D.R. 1999. A second CYP26 P450 in humans and zebrafish: CYP26B1. Arch. Biochem. Biophys. 371: 345-347.
2. White, J.A., Ramshaw, H., Taimi, M., Stangle, W., Zhang, A., Everingham, S., Creighton, S., Tam, S.P., Jones, G. and Petkovich, M. 2000. Identification of the human cytochrome P450, P450RAI-2, which is predominantly expressed in the adult cerebellum and is responsible for all-*trans*-retinoic acid metabolism. Proc. Natl. Acad. Sci. USA 97: 6403-6408.
3. Trofimova-Griffin, M.E. and Juchau, M.R. 2002. Developmental expression of cytochrome CYP26B1 (P450RAI-2) in human cephalic tissues. Brain Res. Dev. Brain Res. 136: 175-178.
4. Taimi, M., Helvig, C., Wisniewski, J., Ramshaw, H., White, J., Amad, M., Korczak, B. and Petkovich, M. 2004. A novel human cytochrome P450, CYP26C1, involved in metabolism of 9-*cis* and all-*trans* isomers of retinoic acid. J. Biol. Chem. 279: 77-85.

CHROMOSOMAL LOCATION

Genetic locus: Cyp26b1 (mouse) mapping to 6 C3.

PRODUCT

CYP26B1 siRNA (m) 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 CYP26B1 shRNA Plasmid (m): sc-142665-SH and CYP26B1 shRNA (m) Lentiviral Particles: sc-142665-V as alternate gene silencing products.

For independent verification of CYP26B1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142665A, sc-142665B and sc-142665C.

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

CYP26B1 siRNA (m) is recommended for the inhibition of CYP26B1 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 CYP26B1 gene expression knockdown using RT-PCR Primer: CYP26B1 (m)-PR: sc-142665-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.

PROTOCOLS

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