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SANTA CRUZ BIOTECHNOLOGY, INC.

UGT3A1 siRNA (m): sc-154906

BACKGROUND

UDP-glucuronosyltransferase isoenzymes (UGTs) catalyze the glucuronidation of small lipophilic molecules, thereby regulating the bioactivity and metabolic fate of a wide range of endogenous compounds and xenobiotics. Glucuronidation increases the polarity of lipophilic molecules and facilitates their entry into aqueous compartments and, ultimately, their excretion. In essence, glucuronidation provides a protective function by terminating or attenuating the biological activity of its substrates. The UGT3A family of isoenzymes are expressed in liver and kidney, and to a lesser extent, in the gastrointestinal tract. UGT3A1 (UDP glycosyltransferase 3 family, polypeptide A1) is a 523 amino acid single-pass type I membrane protein that belongs to the UDP-glycosyltransferase family. It has been suggested that members of the UGT3A family may have an important role in the metabolism and elimination of ursodeoxycholic acid, a metabolic byproduct of intestinal bacteria.

REFERENCES

1. Bélanger, A., et al. 1998. Characterization and regulation of UDP-glucuronosyltransferases in steroid target tissues. J. Steroid Biochem. Mol. Biol. 65: 301-310.
2. Lévesque, E., et al. 1999. Characterization and substrate specificity of UGT2B4 (E458): a UDP-glucuronosyltransferase encoded by a polymorphic gene. Pharmacogenetics 9: 207-216.
3. King, C.D., et al. 2000. UDP-glucuronosyltransferases. Curr. Drug Metab. 1: 143-161.
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5. Buckley, D.B., et al. 2007. Tissue- and gender-specific mRNA expression of UDP-glucuronosyltransferases (UGTs) in mice. Drug Metab. Dispos. 35: 121-127.
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CHROMOSOMAL LOCATION

Genetic locus: Ugt3a1 (mouse) mapping to 15 A1.

PRODUCT

UGT3A1 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 UGT3A1 shRNA Plasmid (m): sc-154906-SH and UGT3A1 shRNA (m) Lentiviral Particles: sc-154906-V as alternate gene silencing products.

For independent verification of UGT3A1 (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-154906A, sc-154906B and sc-154906C.

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

UGT3A1 siRNA (m) is recommended for the inhibition of UGT3A1 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 UGT3A1 gene expression knockdown using RT-PCR Primer: UGT3A1 (m)-PR: sc-154906-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.