SANTA CRUZ BIOTECHNOLOGY, INC.

UGT8 siRNA (h): sc-89005

BACKGROUND

UGT8 (UDP-galactose-ceramide galactosyltransferase, 2-hydroxyacylsphingosine 1-β-galactosyltransferase) is a 541 amino acid, single pass membrane protein of the UDP-glycosyltransferase family. UGT8 is believed to be primarily involved with the metabolism of sphingolipids and galactosylceramide biosynthesis. UGT8 catalyzes the enzymatic transfer of galactose to ceramide in the reaction UDP-galactose + 2-(2-hydroxyacyl)sphingosine = UDP + 1- (β-D-galactosyl)-2-(2-hydroxyacyl)sphingosine. UGT8 is one of six genes whose elevated expression has been correlated with a significantly increased the risk of lung metastases in breast cancer patients. As such, UGT8 may be a significant index of tumor aggressiveness and a potential marker for the prognostic evaluation of lung metastases in breast cancer. UGT8 is ubiquitously expressed with highest levels found in central and peripheral nervous systems and is up-regulated in breast cancers.

REFERENCES

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2. Gerhard, D.S., et al. 2004. The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC). Genome Res. 14: 2121-2127.
3. Tencomnao, T., et al. 2004. Transcriptional regulation of the human UDP-galactose:ceramide galactosyltransferase (hCGT) gene expression: functional role of GC-box and CRE. Glycoconj. J. 20: 339-351.
4. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.
5. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
6. Mackenzie, P.I., et al. 2005. Nomenclature update for the mammalian UDP glycosyltransferase (UGT) gene superfamily. Pharmacogenet. Genomics 15: 677-685.

CHROMOSOMAL LOCATION

Genetic locus: UGT8 (human) mapping to 4q26.

PRODUCT

UGT8 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 UGT8 shRNA Plasmid (h): sc-89005-SH and UGT8 shRNA (h) Lentiviral Particles: sc-89005-V as alternate gene silencing products.

For independent verification of UGT8 (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-89005A, sc-89005B and sc-89005C.

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

UGT8 siRNA (h) is recommended for the inhibition of UGT8 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 UGT8 gene expression knockdown using RT-PCR Primer: UGT8 (h)-PR: sc-89005-PR (20 µl, 450 bp). 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.