SANTA CRUZ BIOTECHNOLOGY, INC.

SULT6B1 siRNA (h): sc-94552

BACKGROUND

SULT6B1 (sulfotransferase family, cytosolic, 6B, member 1), also known as ST6B1 (sulfotransferase 6B1) or thyroxine sulfotransferase, is a 303 amino acid cytoplasmic protein that is specifically expressed in kidney and testis. SULT6B1 belongs to the sulfotransferase 1 family and exists as two alternatively spliced isoforms. Involved in the metabolism of thyroxine, SULT6B1 has specific sulfotransferase activity towards thyroxine. The gene that encodes SULT6B1 contains 28,779 bases and maps to human chromosome 2p22.2. With 237 million bases encoding over 1,400 genes, chromosome 2 is the second largest human chromosome. A number of genetic diseases are linked to genes on chromosome 2, including the rare and morbid skin disease, Harlequin icthyosis, the lipid metabolic disorder, sitosterolemia, and the extremely rare recessive genetic disorder, Alström syndrome.

REFERENCES

1. Patel, S.B., et al. 1998. Mapping a gene involved in regulating dietary cholesterol absorption. The sitosterolemia locus is found at chromosome 2p21. J. Clin. Invest. 102: 1041-1044.
2. Zumsteg, U., et al. 2000. Alstrom syndrome: confirmation of linkage to chromosome 2p12-13 and phenotypic heterogeneity in three affected sibs. J. Med. Genet. 37: E8.
3. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
4. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.
5. Freimuth, R.R., et al. 2004. Human cytosolic sulfotransferase database mining: identification of seven novel genes and pseudogenes. Pharmacogenomics J. 4: 54-65.
6. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. Am. J. Hum. Genet. 76: 794-803.
7. Allali-Hassani, A., et al. 2007. Structural and chemical profiling of the human cytosolic sulfotransferases. PLoS Biol. 5: e97.

CHROMOSOMAL LOCATION

Genetic locus: SULT6B1 (human) mapping to 2p22.2.

PRODUCT

SULT6B1 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 SULT6B1 shRNA Plasmid (h): sc-94552-SH and SULT6B1 shRNA (h) Lentiviral Particles: sc-94552-V as alternate gene silencing products.

For independent verification of SULT6B1 (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-94552A, sc-94552B and sc-94552C.

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

SULT6B1 siRNA (h) is recommended for the inhibition of SULT6B1 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.

GENE EXPRESSION MONITORING

SULT6B1 (B-4): sc-398770 is recommended as a control antibody for monitoring of SULT6B1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 SULT6B1 gene expression knockdown using RT-PCR Primer: SULT6B1 (h)-PR: sc-94552-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.