SANTA CRUZ BIOTECHNOLOGY, INC.

SULT4A1 siRNA (h): sc-76609

BACKGROUND

Sulfation is an essential conjugation reaction that increases the water solubility of many compounds, thereby influencing their renal excretion and also resulting in the formation of active metabolites. SULT4A1 (sulfotransferase family 4A, member 1), whose alternative names include brain sulfotransferase-like protein, nervous system sulfotransferase, NST, SULTX3, hBR-STL-1, BRSTL1, BR-STL-1, MGC40032 and DJ388M5.3, is a 284 amino acid protein showing cytoplasmic localization. As a member of the sulfotransferase 1 family, SULT4A1 plays a role in elimination of xenobiotics, activation of procarcinogens and regulation of hormones. SULT4A1 is highly expressed in cerebral cortex and frontal lobe, with lower expression in cerebellum, temporal and occipital lobes. Two SULT4A1 isoforms exist to alternative splicing events. The gene encoding SULT4A1 maps to human chromosome 22q13.31, a region which has been implicated in predisposition to schizophrenia.

REFERENCES

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3. Glatt, H., et al. 2001. Human cytosolic sulphotransferases: genetics, characteristics, toxicological aspects. Mutat. Res. 482: 27-40.
4. Liyou, N.E., et al. 2003. Localization of a brain sulfotransferase, SULT4A1, in the human and rat brain: an immunohistochemical study. J. Histochem. Cytochem. 51: 1655-1664.
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6. Brennan, M.D. and Condra, J. 2005. Transmission disequilibrium suggests a role for the sulfotransferase-4A1 gene in schizophrenia. Am. J. Med. Genet. B Neuropsychiatr. Genet. 139B: 69-72.
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CHROMOSOMAL LOCATION

Genetic locus: SULT4A1 (human) mapping to 22q13.31.

PRODUCT

SULT4A1 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 SULT4A1 shRNA Plasmid (h): sc-76609-SH and SULT4A1 shRNA (h) Lentiviral Particles: sc-76609-V as alternate gene silencing products.

For independent verification of SULT4A1 (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-76609A, sc-76609B and sc-76609C.

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

SULT4A1 siRNA (h) is recommended for the inhibition of SULT4A1 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

SULT4A1 (B-3): sc-374545 is recommended as a control antibody for monitoring of SULT4A1 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 SULT4A1 gene expression knockdown using RT-PCR Primer: SULT4A1 (h)-PR: sc-76609-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.