**BACKGROUND**

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These cytosolic enzymes differ in their tissue distributions and substrate specificity, but the gene structure (number and length of exons) is similar among family members. GalNAc-4-sulfotransferase (GalNAc4ST-1), also designated carbohydrate sulfotransferase 8 (CHST8), is a member of a family of sulfotransferases that includes chondroitin-4-sulfotransferases-1–3, HNK-1 sulfotransferase and dermatan-4-sulfotransferase-1. The GalNAc4ST-1 protein displays 28% identity to chondroitin-4-sulfotransferase-1 (C4ST-1), 26% to chondroitin 4-sulfotransferase-2 (C4ST-2) and 23% identity to HNK-1ST. GalNAc4ST-1 transfers sulfate to the C-4 hydroxy group of nonreducing terminal GalNAc residues and shows higher expression in regions of the brain such as the pituitary and cerebellum.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: Chst8 (mouse) mapping to 7 B1.

**PRODUCT**

GalNAc4ST-1 siRNA (m) is a pool of 3 target-specific 20-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GalNAc4ST-1 shRNA Plasmid (m): sc-60692-SH as an alternate gene silencing product.

For independent verification of GalNAc4ST-1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3 nmol of lyophilized siRNA. These include: sc-60692A, sc-60692B and sc-60692C.

**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**

GalNAc4ST-1 siRNA (m) is recommended for the inhibition of GalNAc4ST-1 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-38688 (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 60 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-38689, 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**

GalNAc4ST-1 (C-20): sc-49012 is recommended as a control antibody for monitoring of GalNAc4ST-1 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor GalNAc4ST-1 gene expression knockdown using RT-PCR Primer: GalNAc4ST-1 (m)-PR: sc-60692-PR (20 µl). Annealing temperature for the primers should be 60° C and the extension temperature should be 68-72° C.

**PROTOCOLS**

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