

# C6ST-1 (N-12): sc-48974

## BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These cytosolic enzymes differ in their tissue distribution and substrate specificities, although the gene structure (number and length of exons) is similar among family members. Sulfotransferases are primarily expressed in liver and adrenal tissues, where they add sulfate to steroids and bile acids. Chondroitin 6-sulfotransferase-1 (C6ST-1) is a 486 amino acid protein that localizes in the Golgi apparatus, where it sulfates both chondroitin and keratan sulfate. C6ST-1 is developmentally regulated in many different tissues, with expression continuing through adulthood in the spleen. When C6ST-1 expression is upregulated, the motility of Schwann cells that guide growing axons through both developmental and injured environments increases.

## REFERENCES

1. Fukuta, M., et al. 1995. Molecular cloning and expression of chick chondrocyte chondroitin 6-sulfotransferase. *J. Biol. Chem.* 270: 18575-18580.
2. Gauguet, J.M., et al. 2004. Core 2 branching  $\beta$ 1,6-N-acetylglucosaminyltransferase and high endothelial cell N-acetylglucosamine-6-sulfotransferase exert differential control over B and T lymphocyte homing to peripheral lymph nodes. *Blood* 104: 4104-4112.
3. Uchimura, K., et al. 2004. N-acetylglucosamine-6-O-sulfotransferase-1 regulates expression of L-Selectin ligands and lymphocyte homing. *J. Biol. Chem.* 279: 35001-35008.
4. de Graffenried, C.L. and Bertozzi, C.R. 2004. The stem region of the sulfotransferase GlcNAc6ST-1 is a determinant of substrate specificity. *J. Biol. Chem.* 279: 40035-40043.
5. Thiele, H., et al. 2004. Loss of chondroitin 6-O-sulfotransferase-1 function results in severe human chondrodysplasia with progressive spinal involvement. *Proc. Natl. Acad. Sci. USA* 101: 10155-10160.
6. Yamada, T., et al. 2004. Chondroitin 4-sulphotransferase-1 and chondroitin 6-sulphotransferase-1 are affected differently by uronic acid residues neighboring the acceptor GalNAc residues. *Biochem. J.* 384: 567-575.
7. Nishimura, M., et al. 2005. Effects of NO-1886 (Ibrolipim), a lipoprotein lipase-promoting agent, on gene induction of cytochrome P450s, carboxylesterases and sulfotransferases in primary cultures of human hepatocytes. *Drug Metab. Pharmacokinet.* 19: 422-429.
8. Properzi, F., et al. 2005. Chondroitin 6-sulphate synthesis is upregulated in injured CNS, induced by injury-related cytokines and enhanced in axon-growth inhibitory glia. *Eur. J. Neurosci.* 21: 378-390.

## CHROMOSOMAL LOCATION

Genetic locus: CHST3 (human) mapping to 10q22.1; Chst3 (mouse) mapping to 10 B4.

## SOURCE

C6ST-1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of C6ST-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-48974 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

C6ST-1 (N-12) is recommended for detection of C6ST-1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C6ST-1 siRNA (h): sc-60305, C6ST-1 siRNA (m): sc-60306, C6ST-1 shRNA Plasmid (h): sc-60305-SH, C6ST-1 shRNA Plasmid (m): sc-60306-SH, C6ST-1 shRNA (h) Lentiviral Particles: sc-60305-V and C6ST-1 shRNA (m) Lentiviral Particles: sc-60306-V.

Molecular Weight of C6ST-1: 56 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or mouse kidney extract: sc-2255.

## RECOMMENDED SECONDARY REAGENTS

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.

## SELECT PRODUCT CITATIONS

1. Agarwal, S., et al. 2010. Telomere elongation in induced pluripotent stem cells from dyskeratosis congenita patients. *Nature* 464: 292-296.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **C6ST-1 (G-9): sc-271696** or **C6ST-1 (A-8): sc-271961**, our highly recommended monoclonal alternatives to C6ST-1 (N-12).