



## CHST5/6 (N-15): sc-68028

### BACKGROUND

Sulfotransferase enzymes catalyze the sulfate conjugation of many hormones, neurotransmitters, drugs and xenobiotic compounds. These enzymes differ in their tissue distributions and substrate specificities, although the gene structure (number and length of exons) is similar among family members. Carbohydrate sulfotransferase 5 (CHST5) (also referred to as GlcNAc6ST-3 or IGn6ST) and carbohydrate sulfotransferase 6 (CHST6) (also referred to as GlcNAc6ST-5 or Cgn6ST) are predominantly expressed in the intestine and cornea, respectively. They are highly homologous and both are orthologs of the murine CHST5. CHST5 and CHST6 may be the result of gene duplication. They catalyze the transfer of sulfate to position 6 of non-reducing N-acetylglucosamine (GlcNAc) residues. CHST5 preferably mediates the sulfation of short carbohydrates and O-linked sugars of mucin-type acceptors. CHST6 mediates the sulfation of keratan in the cornea, which is important in maintaining corneal transparency.

### REFERENCES

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2. Akama, T.O., et al. 2002. Enzymatic synthesis *in vitro* of the disulfated disaccharide unit of corneal keratan sulfate. *J. Biol. Chem.* 277: 42505-42513.
3. Seko, A., et al. 2002. Ectopic expression of a GlcNAc 6-O-sulfotransferase, GlcNAc6ST-2, in colonic mucinous adenocarcinoma. *Glycobiology* 12: 379-388.
4. Uchimura, K., et al. 2002. Specificities of N-acetylglucosamine-6-O-sulfotransferases in relation to L-Selectin ligand synthesis and tumor-associated enzyme expression. *J. Biol. Chem.* 277: 3979-3984.
5. Iida, A., et al. 2002. Catalog of 77 single-nucleotide polymorphisms (SNPs) in the carbohydrate sulfotransferase 1 (CHST1) and carbohydrate sulfotransferase 3 (CHST3) genes. *J. Hum. Genet.* 47: 14-19.
6. de Graffenried, C.L. and Bertozzi, C.R. 2003. Golgi localization of carbohydrate sulfotransferases is a determinant of L-Selectin ligand biosynthesis. *J. Biol. Chem.* 278: 40282-40295.
7. Lee, J.K., et al. 2003. Activities and expression pattern of the carbohydrate sulfotransferase GlcNAc6ST-3 (I-GlcNAc6ST): functional implications. *Glycobiology* 13: 245-254.
8. Veeriah, S., et al. 2006. Apple flavonoids inhibit growth of HT29 human colon cancer cells and modulate expression of genes involved in the biotransformation of xenobiotics. *Mol. Carcinog.* 45: 164-174.
9. Hayashida, Y., et al. 2006. Matrix morphogenesis in cornea is mediated by the modification of keratan sulfate by GlcNAc 6-O-sulfotransferase. *Proc. Natl. Acad. Sci. USA* 103: 13333-13338.

### STORAGE

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

### CHROMOSOMAL LOCATION

Genetic locus: CHST5 (human) mapping to 16q22.3, CHST6 (human) mapping to 16q22.

### SOURCE

CHST5/6 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CHST5 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68028 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

CHST5/6 (N-15) is recommended for detection of CHST5 and CHST6 of human 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).

Molecular Weight of CHST5/6: 44 kDa.

### 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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.