

# CHST1 (H-107): sc-135030

## 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 1 (CHST1), also referred to as KSGal6ST or KSST, is a keratan sulfate sulfotransferase. It is predominantly expressed in brain and skeletal muscle and localizes to the *trans*-Golgi network. CHST1 is responsible for mediating the sulfation of keratan in the cornea, which is important in maintaining corneal transparency. In particular, CHST1 catalyzes the transfer of sulfate groups from 3'-phosphoadenosine 5'-phosphosulfate to position six of internal or terminal galactose residues (preferentially the residues adjacent to sulfated GlcNAc) on growing keratan sulfate chains. CHST1 also contributes to the generation of L-selectin ligands. Mutations in the CHST1 gene may play a role in macular corneal dystrophy (MCD).

## REFERENCES

1. Fukuta, M., et al. 1998. Molecular cloning and characterization of human keratan sulfate Gal-6-sulfotransferase. *J. Biol. Chem.* 272: 32321-32328.
2. Tu, L., et al. 1999. L-Selectin ligands expressed by human leukocytes are HECA-452 antibody-defined carbohydrate epitopes preferentially displayed by P-Selectin glycoprotein ligand-1. *J. Immunol.* 163: 5070-5078.
3. Li, X. and Tedder, T.F. 1999. CHST1 and CHST2 sulfotransferases expressed by human vascular endothelial cells: cDNA cloning, expression, and chromosomal localization. *Genomics* 55: 345-347.
4. Torii, T., et al. 2000. Sulfation of sialyl N-acetylglucosamine oligosaccharides and fetuin oligosaccharides by keratan sulfate Gal-6-sulfotransferase. *Glycobiology* 10: 203-211.
5. Li, X., et al. 2001. CHST1 and CHST2 sulfotransferase expression by vascular endothelial cells regulates shear-resistant leukocyte rolling via L-Selectin. *J. Leukoc. Biol.* 69: 565-574.

## CHROMOSOMAL LOCATION

Genetic locus: CHST1 (human) mapping to 11p11.2; *Chst1* (mouse) mapping to 2 E1.

## SOURCE

CHST1 (H-107) is a rabbit polyclonal antibody raised against amino acids 305-411 mapping at the C-terminus of CHST1 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.

## STORAGE

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

## APPLICATIONS

CHST1 (H-107) is recommended for detection of CHST1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

CHST1 (H-107) is also recommended for detection of CHST1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for CHST1 siRNA (h): sc-62110, CHST1 siRNA (m): sc-62111, CHST1 shRNA Plasmid (h): sc-62110-SH, CHST1 shRNA Plasmid (m): sc-62111-SH, CHST1 shRNA (h) Lentiviral Particles: sc-62110-V and CHST1 shRNA (m) Lentiviral Particles: sc-62111-V.

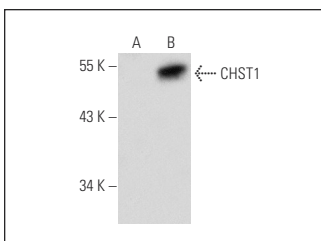
Molecular Weight of CHST1: 47 kDa.

Positive Controls: CHST1 (h): 293T Lysate: sc-114756.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



CHST1 (H-107): sc-135030. Western blot analysis of CHST1 expression in non-transfected: sc-117752 (A) and human CHST1 transfected: sc-114756 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **CHST1 (A-2): sc-365021** or **CHST1 (E-8): sc-365022**, our highly recommended monoclonal alternatives to CHST1 (H-107).