

CHST1 (E-3): sc-271599

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

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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.
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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.
6. Uchimura, K., et al. 2002. Functional analysis of the chondroitin 6-sulfotransferase gene in relation to lymphocyte subpopulations, brain development, and oversulfated chondroitin sulfates. *J. Biol. Chem.* 277: 1443-1450.
7. 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.
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CHROMOSOMAL LOCATION

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

SOURCE

CHST1 (E-3) is a mouse monoclonal antibody raised against amino acids 305-411 mapping at the C-terminus of CHST1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CHST1 (E-3) is recommended for detection of CHST1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

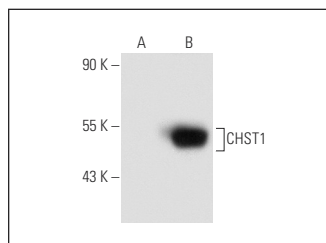
Molecular Weight of CHST1: 47 kDa.

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

RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CHST1 (E-3): sc-271599. Western blot analysis of CHST1 expression in non-transfected: sc-117752 (A) and human CHST1 transfected: sc-114756 (B) 293T whole cell lysates.

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.