

C4ST-1 (L18): sc-100868

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 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. C4ST-1 (chondroitin 4-sulphotransferase-1) transfers sulfate from PAPS (adenosine 3'-phosphate 5'-phosphosulphate) to position 4-O of N-acetylgalactosamine in chondroitin. This sulfation is required for proper chondroitin sulfate localization, modulation of distinct signaling pathways, and cartilage growth plate morphogenesis. N-linked oligosaccharides attached to C4ST-1 contribute to the production and stability of the active form of C4ST-1.

REFERENCES

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- Xia, G., et al. 2000. Molecular cloning and expression of the pituitary glycoprotein hormone N-acetylgalactosamine-4-O-sulfotransferase. *J. Biol. Chem.* 275: 38402-38409.
- Mikami, T., et al. 2003. Specificities of three distinct human chondroitin/dermatan N-acetylgalactosamine-4-O-sulfotransferases demonstrated using partially desulfated dermatan sulfate as an acceptor: implication of differential roles in dermatan sulfate biosynthesis. *J. Biol. Chem.* 278: 36115-36127.
- 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.
- Kluppel, M., et al. 2005. Maintenance of chondroitin sulfation balance by chondroitin 4-sulfotransferase-1 is required for chondrocyte development and growth factor signaling during cartilage morphogenesis. *Development* 132: 3989-4003.
- Tiedemann, K., et al. 2005. Regulation of the chondroitin/dermatan fine structure by transforming growth factor β 1 through effects on polymer-modifying enzymes. *Glycobiology* 15: 1277-1285.

CHROMOSOMAL LOCATION

Genetic locus: CHST11 (human) mapping to 12q23.3; Chst11 (mouse) mapping to 10 C1.

SOURCE

C4ST-1 (L18) is a mouse monoclonal antibody raised against recombinant C4ST-1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

C4ST-1 (L18) is recommended for detection of C4ST-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for C4ST-1 siRNA (h): sc-60303, C4ST-1 siRNA (m): sc-60304, C4ST-1 shRNA Plasmid (h): sc-60303-SH, C4ST-1 shRNA Plasmid (m): sc-60304-SH, C4ST-1 shRNA (h) Lentiviral Particles: sc-60303-V and C4ST-1 shRNA (m) Lentiviral Particles: sc-60304-V.

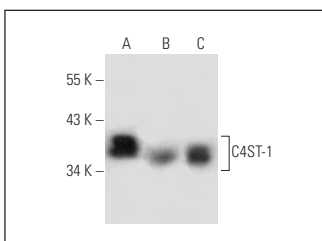
Molecular Weight of C4ST-1: 43 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Caki-1 cell lysate: sc-2224 or Saos-2 cell lysate: sc-2235.

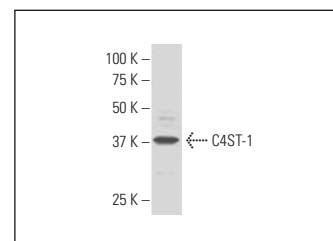
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



C4ST-1 (L18): sc-100868. Western blot analysis of C4ST-1 expression in HeLa (A), Caki-1 (B) and Saos-2 (C) whole cell lysates.



C4ST-1 (L18): sc-100868. Western blot analysis of C4ST-1 expression in K-562 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.

PROTOCOLS

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