

D4ST (V-18): sc-68295

BACKGROUND

D4ST (dermatan 4-sulfotransferase 1), also known as CHST14 (carbohydrate sulfotransferase 14), is a 376 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and belongs to the sulfotransferase family. Expressed in a variety of tissues with highest expression in placenta, thyroid, uterus and pituitary gland, D4ST functions to specifically catalyze the transfer of sulfate to position 4 of the N-acetylgalactosamine (GalNAc) residue of dermatan sulfate, an event that is necessary for dermatan sulfate synthesis. The gene encoding D4ST maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome.

REFERENCES

1. Kang, H.G., et al. 2001. Molecular cloning and expression of an N-acetylgalactosamine-4-O-sulfotransferase that transfers sulfate to terminal and non-terminal β 1,4-linked N-acetylgalactosamine. *J. Biol. Chem.* 276: 10861-10869.
2. Evers, M.R., et al. 2001. Molecular cloning and characterization of a dermatan-specific N-acetylgalactosamine 4-O-sulfotransferase. *J. Biol. Chem.* 276: 36344-36353.
3. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
4. 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.
5. Otsuki, T., et al. 2005. Signal sequence and keyword trap in silico for selection of full-length human cDNAs encoding secretion or membrane proteins from oligo-capped cDNA libraries. *DNA Res.* 12: 117-126.
6. Mitsunaga, C., et al. 2006. Chondroitin sulfate/dermatan sulfate hybrid chains in the development of cerebellum. Spatiotemporal regulation of the expression of critical disulfated disaccharides by specific sulfotransferases. *J. Biol. Chem.* 281: 18942-18952.

CHROMOSOMAL LOCATION

Genetic locus: CHST14 (human) mapping to 15q15.1; Chst14 (mouse) mapping to 2 E5.

SOURCE

D4ST (V-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of D4ST of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-68295 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

D4ST (V-18) is recommended for detection of D4ST of mouse, rat and 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).

D4ST (V-18) is also recommended for detection of D4ST in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for D4ST siRNA (h): sc-77318, D4ST siRNA (m): sc-77319, D4ST shRNA Plasmid (h): sc-77318-SH, D4ST shRNA Plasmid (m): sc-77319-SH, D4ST shRNA (h) Lentiviral Particles: sc-77318-V and D4ST shRNA (m) Lentiviral Particles: sc-77319-V.

Molecular Weight of D4ST: 43 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.

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 or our catalog for detailed protocols and support products.