

CST (K-13): sc-167557

BACKGROUND

CST, also known as SLC35A1 (solute carrier family 35 member A1), CMP-sialic acid transporter (CMP-Sia-Tr) or CMPST, is a 337 amino acid multi-pass membrane protein of the Golgi apparatus that transfers CMP-sialic acid and other nucleotide sugars into the lumen of Golgi vesicles from the cytosol. A member of the nucleotide-sugar transporter family and SLC35A subfamily, CST is encoded by a gene that maps to human chromosome 6q15 and mouse chromosome 4 A5. Defects in the gene encoding CST are the cause of congenital disorder of glycosylation type 2F (CDG2F), a disease caused by defective protein N-glycosylation. CDG2F is characterized by under-glycosylated serum proteins and affects multiple systems of patients with the disease.

REFERENCES

1. Ishida, N., et al. 1996. Molecular cloning and characterization of a novel isoform of the human UDP-galactose transporter, and of related complementary DNAs belonging to the nucleotide-sugar transporter gene family. *J. Biochem.* 120: 1074-1078.
2. Eckhardt, M., et al. 1996. Expression cloning of the Golgi CMP-sialic acid transporter. *Proc. Natl. Acad. Sci. USA* 93: 7572-7576.
3. Ishida, N., et al. 1998. Functional expression of human golgi CMP-sialic acid transporter in the Golgi complex of a transporter-deficient Chinese hamster ovary cell mutant. *J. Biochem.* 124: 171-178.
4. Aoki, K., et al. 2003. Substrate recognition by nucleotide sugar transporters: further characterization of substrate recognition regions by analyses of UDP-galactose/CMP-sialic acid transporter chimeras and biochemical analysis of the substrate specificity of parental and chimeric transporters. *J. Biol. Chem.* 278: 22887-22893.
5. Martinez-Duncker, I., et al. 2005. Genetic complementation reveals a novel human congenital disorder of glycosylation of type II, due to inactivation of the Golgi CMP-sialic acid transporter. *Blood* 105: 2671-2676.
6. Misaki, R., et al. 2006. Expression of human CMP-N-acetylneuraminic acid synthetase and CMP-sialic acid transporter in tobacco suspension-cultured cell. *Biochem. Biophys. Res. Commun.* 339: 1184-1189.

CHROMOSOMAL LOCATION

Genetic locus: SLC35A1 (human) mapping to 6q15; Slc35a1 (mouse) mapping to 4 A5.

SOURCE

CST (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CST of human origin.

STORAGE

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

PROTOCOLS

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

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-167557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CST (K-13) is recommended for detection of CST 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).

CST (K-13) is also recommended for detection of CST in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CST siRNA (h): sc-95545, CST siRNA (m): sc-142606, CST shRNA Plasmid (h): sc-95545-SH, CST shRNA Plasmid (m): sc-142606-SH, CST shRNA (h) Lentiviral Particles: sc-95545-V and CST shRNA (m) Lentiviral Particles: sc-142606-V.

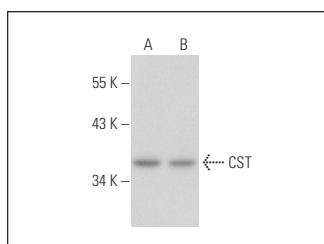
Molecular Weight of CST: 37 kDa.

Positive Controls: PANC-1 whole cell lysate: sc-364380 or BxPC-3 whole cell lysate.

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

DATA



CST (K-13): sc-167557. Western blot analysis of CST expression in PANC-1 (A) and BxPC-3 (B) whole cell lysates.

RESEARCH USE

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