

CTP (H-294): sc-134878

BACKGROUND

CTP (citrate transport protein), also known as tricarboxylate transport protein, SLC25A1 or SLC20A3, is a 311 amino acid mitochondrial multi-pass membrane protein that primarily functions to transport citrate across the mitochondrial inner membrane. Since it provides a carbon source for sterol and fatty acid biosynthesis, CTP is important for the bioenergetics of hepatic cells. The gene encoding CTP resides within a chromosomal region that is frequently deleted in patients that suffer from DiGeorge syndrome, a disease characterized by susceptibility to infection due to a deficit of T cells, cardiac malformations and tetany or seizures. Playing a significant role in intermediate metabolism, it appears that CTP function may be altered in type I diabetes and some cancers. CTP is highly expressed in adult ovary, gut liver, and testis, as well as in fetal kidney, lung, brain and liver.

REFERENCES

1. Kaplan, R.S., Mayor, J.A. and Wood, D.O. 1993. The mitochondrial tricarboxylate transport protein. cDNA cloning, primary structure, and comparison with other mitochondrial transport proteins. *J. Biol. Chem.* 268: 13682-13690.
2. Heisterkamp, N., Mulder, M.P., Langeveld, A., ten Hoeve, J., Wang, Z., Roe, B.A. and Groffen, J. 1995. Localization of the human mitochondrial citrate transporter protein gene to chromosome 22Q11 in the DiGeorge syndrome critical region. *Genomics* 29: 451-456.
3. Goldmuntz, E., Wang, Z., Roe, B.A. and Budarf, M.L. 1996. Cloning, genomic organization, and chromosomal localization of human citrate transport protein to the DiGeorge/velocardiofacial syndrome minimal critical region. *Genomics* 33: 271-276.
4. Stoffel, M., Karayiorgou, M., Espinosa, R. and Beau, M.M. 1996. The human mitochondrial citrate transporter gene (SLC20A3) maps to chromosome band 22q11 within a region implicated in DiGeorge syndrome, velo-cardio-facial syndrome and schizophrenia. *Hum. Genet.* 98: 113-115.
5. Iacobazzi, V., Lauria, G. and Palmieri, F. 1997. Organization and sequence of the human gene for the mitochondrial citrate transport protein. *DNA Seq.* 7: 127-139.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A1 (human) mapping to 22q11.21; Slc25a1 (mouse) mapping to 16 A3.

SOURCE

CTP (H-294) is a rabbit polyclonal antibody raised against amino acids 18-311 mapping at the C-terminus of CTP 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

CTP (H-294) is recommended for detection of CTP 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).

CTP (H-294) is also recommended for detection of CTP in additional species, including canine and bovine.

Suitable for use as control antibody for CTP siRNA (h): sc-77046, CTP siRNA (m): sc-142623, CTP shRNA Plasmid (h): sc-77046-SH, CTP shRNA Plasmid (m): sc-142623-SH, CTP shRNA (h) Lentiviral Particles: sc-77046-V and CTP shRNA (m) Lentiviral Particles: sc-142623-V.

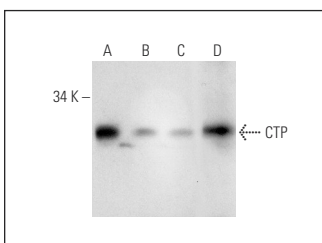
Molecular Weight of CTP isoforms: 30-38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or mouse liver extract: sc-2256.

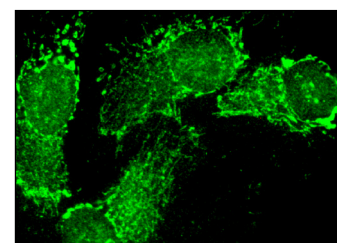
RECOMMENDED SECONDARY REAGENTS

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



CTP (H-294): sc-134878. Western blot analysis of CTP expression in Hep G2 (A), HeLa (B) and Jurkat (C) whole cell lysates and mouse liver tissue extract (D).



CTP (H-294): sc-134878. Immunofluorescence staining of formalin-fixed HepG2 cells showing mitochondrial localization.

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.