SANTA CRUZ BIOTECHNOLOGY, INC.

CTP (C-12): sc-518244

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., et al. 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., et al. 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., et al. 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., et al. 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., et al. 1997. Organization and sequence of the human gene for the mitochondrial citrate transport protein. DNA Seq. 7: 127-139.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 190315. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. De Palma, A., et al. 2005. Kinetic evidence for the uniport mechanism hypothesis in the mitochondrial tricarboxylate transport system. J. Bioenerg. Biomembr. 37: 279-287.
8. Ma, C., et al. 2006. The mitochondrial citrate transport protein: evidence for a steric interaction between glutamine 182 and leucine 120 and its relationship to the substrate translocation pathway and identification of other mechanistically essential residues. Biochim. Biophys. Acta 1757: 1271-1276.
9. Ferramosca, A., et al. 2006. Conjugated linoleic acid and hepatic lipogenesis in mouse: role of the mitochondrial citrate carrier. J. Lipid Res. 47: 1994-2003.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: SLC25A1 (human) mapping to 22q11.21.

SOURCE

CTP (C-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 102-129 of CTP of human origin.

PRODUCT

Each vial contains 200 µg IgA kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CTP (C-12) is recommended for detection of CTP of 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 CTP siRNA (h): sc-77046, CTP shRNA Plasmid (h): sc-77046-SH and CTP shRNA (h) Lentiviral Particles: sc-77046-V.

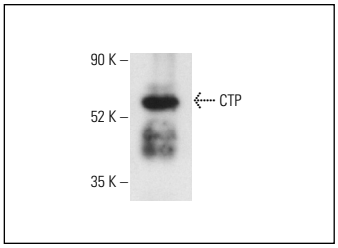
Molecular Weight of CTP isoforms: 30-38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

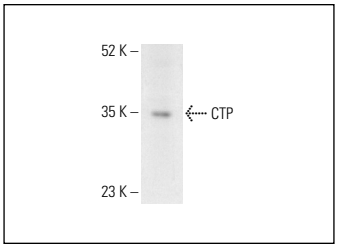
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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



CTP (C-12): sc-518244. Western blot analysis of human recombinant CTP fusion protein. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CTP (C-12): sc-518244. Western blot analysis of CTP expression in HeLa whole cell lysate. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

RESEARCH USE

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