

CCT A (F-17): sc-23687

BACKGROUND

Increase in fetal surfactant synthesis and lung maturity is caused by the glucocorticoid induction of enzymes required for phosphatidylcholine synthesis towards the end of gestation. The regulation of gestational age-dependent induction of phosphatidylcholine synthesis by glucocorticoids is still unclear. The rate-controlling enzyme in the phosphatidylcholine biosynthetic pathway is CTP-phosphocholine cytidyltransferase A (CCT A). In cultured eukaryotic cells, this enzyme is essential for survival. The α isoform is located in the nucleus and is regulated by reversible phosphorylation and membrane association. There is significant identity between the α -helical membrane-binding domains of CCT A and soybean oleosin. Expressed CCT A has lipid-dependent cytidyltransferase activity. The gene which encodes CCT A maps to human chromosome 3q29.

REFERENCES

1. Rutherford, M.S., et al. 1993. The gene for murine CTP: phosphocholine cytidyltransferase (Ctptc) is located on mouse chromosome 16. *Genomics* 18: 698-701.
2. Hundertmark, S., et al. 1994. Gestational age dependence of 11 β -hydroxysteroid dehydrogenase and its relationship to the enzymes of phosphatidylcholine synthesis in lung and liver of fetal rat. *Biochim. Biophys. Acta* 1210: 348-354.
3. Kalmar, G.B., et al. 1994. Primary structure and expression of a human CTP:phosphocholine cytidyltransferase. *Biochim. Biophys. Acta* 1219: 328-334.
4. Clement, J.M. and Kent, C. 1999. CTP: phosphocholine cytidyltransferase: insights into regulatory mechanisms and novel functions. *Biochem. Biophys. Res. Comm.* 257: 643-650.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 123695. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: PCYT1A (human) mapping to 3q29; Pcyt1a (mouse) mapping to 16 B3.

SOURCE

CCT A (F-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CCT A 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-23687 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CCT A (F-17) is recommended for detection of CCT A 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).

CCT A (F-17) is also recommended for detection of CCT A in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for CCT A siRNA (h): sc-40394, CCT A siRNA (m): sc-40395, CCT A shRNA Plasmid (h): sc-40394-SH, CCT A shRNA Plasmid (m): sc-40395-SH, CCT A shRNA (h) Lentiviral Particles: sc-40394-V and CCT A shRNA (m) Lentiviral Particles: sc-40395-V.

Molecular Weight of CCT A: 42 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

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.

SELECT PRODUCT CITATIONS

1. Nieto-Miguel, T., et al. 2006. Differential targets and subcellular localization of antitumor alkyl-lysophospholipid in leukemic versus solid tumor cells. *J. Biol. Chem.* 281: 14833-14840.

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.



Try **CCT A (F-6): sc-376107**, our highly recommended monoclonal alternative to CCT A (F-17).