SANTA CRUZ BIOTECHNOLOGY, INC.

p-CTP Synthetase1 (Ser 330): sc-32830

BACKGROUND

CTP synthetase catalyses the conversion of uridine 5'-triphosphate to cytidine 5'-triphosphate, the last step of the pyrimidine biosynthetic pathway. The CTP synthetase protein sequence shows a strong degree of homology with bacterial and human CTP synthetases. An alternative pathway for CTP synthesis may exist in yeast, which could involve either a divergent duplicated gene or a different route beginning with the amination of uridine mono- or diphosphate. Phosphorylation of CTP synthetase on Ser 36, Ser 330, Ser 354 and Ser 454 regulates the levels of CTP and phosphatidylcholine synthesis in yeast.

REFERENCES

1. Ozier-Kalogeropoulos, O., et al. 1991. Cloning, sequencing and characterization of the *Saccharomyces cerevisiae* URA7 gene encoding CTP synthetase. Mol. Gen. Genet. 231: 7-16.
2. De Wergifosse, P., et al. 1994. The sequence of a 22.4 kb DNA fragment from the left arm of yeast chromosome II reveals homologues to bacterial proline synthetase and murine α-Adaptin, as well as a new permease and a DNA-binding protein. Yeast 10: 1489-1496.
3. Yang, W.L., et al. 1994. Purification and characterization of CTP synthetase, the product of the URA7 gene in *Saccharomyces cerevisiae*. Biochemistry 33: 10785-10793.
4. Park, T.S., et al. 2003. Phosphorylation of CTP synthetase on Ser 36, Ser 330, Ser 354, and Ser 454 regulates the levels of CTP and phosphatidylcholine synthesis in *Saccharomyces cerevisiae*. J. Biol. Chem. 278: 20785-20794.
5. Carman, G.M., et al. 2004. Phospholipid synthesis in yeast: regulation by phosphorylation. Biochem. Cell. Biol. 82: 62-70.
6. Han, G.S., et al. 2005. Expression of human CTP synthetase in *Saccharomyces cerevisiae* reveals phosphorylation by protein kinase A. J. Biol. Chem. 280: 38328-38336.

SOURCE

p-CTP Synthetase1 (Ser 330) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 330 of CTP Synthase 1 of *Saccharomyces cerevisiae* origin.

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-32830 P, (100 µg 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.

PROTOCOLS

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

APPLICATIONS

p-CTP Synthetase1 (Ser 330) is recommended for detection of Ser 330 phosphorylated CTP Synthase 1 and CTP Synthase 2 of *Saccharomyces cerevisiae* 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).

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) 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.

RESEARCH USE

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