Creative Enzymes®

CTP synthase (glutamine hydrolysing)

Cat. No. EXWM-5789

Lot. No. (See product label)

Introduction

Description	The enzyme contains three functionally distinct sites: an allosteric GTP-binding site, a glutaminase site where glutamine hydrolysis occurs (cf. EC 3.5.1.2, glutaminase), and the active site where CTP synthesis takes place. The reaction proceeds via phosphorylation of UTP by ATP to give an activated intermediate 4-phosphoryl UTP and ADP. Ammonia then reacts with this intermediate generating CTP and a phosphate. The enzyme can also use ammonia from the surrounding solution.
Synonyms	UTP-ammonia ligase; cytidine triphosphate synthetase; uridine triphosphate aminase; cytidine 5'-triphosphate synthetase; CTPS (gene name); pyrG (gene name); CTP synthase; UTP:ammonia ligase (ADP-forming)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 6.3.4.2
CAS No.	9023-56-7
Reaction	ATP + UTP + L-glutamine = ADP + phosphate + CTP + L-glutamate (overall reaction); (1a) L-glutamine + H2O = L-glutamate + NH3; (1b) ATP + UTP + NH3 = ADP + phosphate + CTP
Notes	This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage	Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.