Creative Enzymes®

asparaginyl-tRNA synthase (glutamine-hydrolysing)

Cat. No. EXWM-5809

Lot. No. (See product label)

Introduction

Description	This reaction forms part of a two-reaction system for producing asparaginyl-tRNA in Deinococcus radiodurans and other organisms lacking a specific enzyme for asparagine synthesis. In the first step, a non-discriminating ligase (EC 6.1.1.23, aspartate-tRNAAsn ligase) mischarges tRNAAsn with aspartate, leading to the formation of Asp-tRNAAsn. The aspartyl-tRNAAsn is not used in protein synthesis until the present enzyme converts it into asparaginyl-tRNAAsn (aspartyl-tRNAAsp is not a substrate for this reaction). Ammonia or asparagine can substitute for the preferred substrate glutamine.
Synonyms	Asp-AdT; Asp-tRNAAsn amidotransferase; aspartyl-tRNAAsn amidotransferase; Asn-tRNAAsn:L-glutamine amido-ligase (ADP-forming); aspartyl-tRNAAsn:L-glutamine amido-ligase (ADP-forming)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 6.3.5.6
CAS No.	37211-76-0
Reaction	ATP + L-aspartyl-tRNAAsn + L-glutamine + H2O = ADP + phosphate + L-asparaginyl-tRNAAsn + L-glutamate
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 ℃.