Creative Enzymes®

glutamate-tRNAGln ligase

Cat. No. EXWM-5656

Lot. No. (See product label)

Introduction

Description	When this enzyme acts on tRNAGlu, it catalyses the same reaction as EC 6.1.1.17, glutamate-tRNA ligase. It has, however, diminished discrimination, so that it can also form glutamyl-tRNAGln. This relaxation of specificity has been found to result from the absence of a loop in the tRNA that specifically recognizes the third position of the anticodon. This accounts for the ability of this enzyme in, for example, Bacillus subtilis, to recognize both tRNA1Gln (UUG anticodon) and tRNAGlu (UUC anticodon) but not tRNA2Gln (CUG anticodon). The ability of this enzyme to recognize both tRNAGlu and one of the tRNAGln isoacceptors derives from their sharing a major identity element, a hypermodified derivative of U34 (5-methylaminomethyl-2-thiouridine). The glutamyl-tRNAGln is not used in protein synthesis until it is converted by EC 6.3.5.7, glutaminyl-tRNA synthase (glutamine-hydrolysing), into glutaminyl-tRNAGln.
Synonyms	nondiscriminating glutamyl-tRNA synthetase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 6.1.1.24
CAS No.	9068-76-2
Reaction	ATP + L-glutamate + tRNAGlx = AMP + diphosphate + L-glutamyl-tRNAGlx
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 ℃.