Creative Enzymes®

Native Escherichia coli L-Glutamine Synthetase

Cat. No. NATE-0321

Lot. No. (See product label)

Introduction

Description	Glutamine synthetase (GS) (EC 6.3.1.2) is an enzyme that plays an essential role in the metabolism of nitrogen by catalyzing the condensation of glutamate and ammonia to form glutamine:Glutamate + ATP + NH3 → Glutamine + ADP + phosphate. Glutamine Synthetase uses ammonia produced by Nitrate reduction, amino acid degradation, and photorespiration. The amide group of glutamate is a nitrogen source for the synthesis of glutamine pathway metabolites.
Applications	L-Glutamine synthetase may be used for the purification of proteases from Escherichia coli.
Synonyms	glutamine synthetase; glutamylhydroxamic synthetase; L-glutamine synthetase; glutamate-ammonia ligase; L-Glutamate:ammonia ligase (ADP-forming); EC 6.3.1.2; GS; 9023-70-5

Product Information

Source	Escherichia coli
Form	lyophilized powder; Contains potassium phosphate, sodium Citrate and magnesium acetate buffer salts
EC Number	EC 6.3.1.2
CAS No.	9023-70-5
Purity	affinity chromatography
Activity	400-2,000 units/mg protein
Buffer	H2O: soluble 0.95-1.05 mg/mL, clear to hazy
Pathway	Alanine, aspartate and glutamate metabolism, organism-specific biosystem; Arginine and proline metabolism, organism-specific biosystem; Metabolic pathways, organism-specific biosystem
Unit Definition	One unit will convert 1.0 µmole of L-glutamate to L-glutamine in 15 min at pH 7.1 at 37°C.

Storage and Shipping Information

Storage	−20°C