Creative Enzymes®

glutamate synthase (ferredoxin)

Cat. No. EXWM-1487

Lot. No. (See product label)

Introduction

Description	Binds a [3Fe-4S] cluster as well as FAD and FMN. The protein is composed of two domains, one hydrolysing L-glutamine to NH3 and L-glutamate (cf. EC 3.5.1.2, glutaminase), the other combining the produced NH3 with 2-oxoglutarate to produce a second molecule of L-glutamate. The NH3 is channeled through a 24 Å channel in the active protein. No hydrolysis of glutamine takes place without ferredoxin and 2-oxoglutarate being bound to the protein.
Synonyms	ferredoxin-dependent glutamate synthase; ferredoxin-glutamate synthase; glutamate synthase (ferredoxin-dependent)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.4.7.1
CAS No.	62213-56-3
Reaction	2 L-glutamate + 2 oxidized ferredoxin = L-glutamine + 2-oxoglutarate + 2 reduced ferredoxin + 2 H+ (overall reaction); (1a) L-glutamate + NH3 = L-glutamine + H2O; (1b) L-glutamate + 2 oxidized ferredoxin + H2O = NH3 + 2-oxoglutarate + 2 reduced ferredoxin + 2 H+
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 ℃.