Creative Enzymes®

diphthine synthase

Cat. No. EXWM-1998

Lot. No. (See product label)

Introduction

Description	This archaeal enzyme produces the trimethylated product diphthine, which is converted into diphthamide by EC 6.3.1.14, diphthine-ammonia ligase. Different from the eukaryotic enzyme, which produces diphthine methyl ester (cf. EC 2.1.1.314). In the archaeon Pyrococcus horikoshii the enzyme acts on His600 of elongation factor 2.
Synonyms	S-adenosyl-L-methionine:elongation factor 2 methyltransferase (ambiguous); diphthine methyltransferase (ambiguous); S-adenosyl-L-methionine:2-(3-carboxy-3-aminopropyl)-L-histidine-[translation elongation factor 2] methyltransferase; Dph5 (ambiguous)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 2.1.1.98
CAS No.	114514-25-9
Reaction	3 S-adenosyl-L-methionine + 2-[(3S)-3-carboxy-3-aminopropyl]-L-histidine-[translation elongation factor 2] = 3 S-adenosyl-L-homocysteine + diphthine-[translation elongation factor 2] (overall reaction); (1a) S-adenosyl-L-methionine + 2-[(3S)-3-carboxy-3-aminopropyl]-L-histidine-[translation elongation factor 2] = S-adenosyl-L-homocysteine + 2-[(3S)-3-carboxy-3-(methylamino)propyl]-L-histidine-[translation elongation factor 2]; (1b) S-adenosyl-L-methionine + 2-[(3S)-3-carboxy-3-(methylamino)propyl]-L-histidine-[translation elongation factor 2] = S-adenosyl-L-homocysteine + 2-[(3S)-3-carboxy-3-(dimethylamino)propyl]-L-histidine-[translation elongation factor 2]; (1c) S-adenosyl-L-methionine + 2-[(3S)-3-carboxy-3-(dimethylamino)propyl]-L-histidine-[translation elongation factor 2] = S-adenosyl-L-homocysteine + diphthine-[translation elongation factor 2]
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 ℃.