

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 °C for short term. For long term storage, store it at -20 °C~-80 °C.