Creative Enzymes®

[ribosomal protein S12] (aspartate89-C3)-methylthiotransferase

Cat. No. EXWM-3430

Lot. No. (See product label)

Introduction

Description

This bacterial enzyme binds two [4Fe-4S] clusters. A bridge of five sulfur atoms is formed between the free Fe atoms of the two [4Fe-4S] clusters. In the first reaction the enzyme transfers a methyl group from AdoMet to the external sulfur ion of the sulfur bridge. In the second reaction the enzyme catalyses the reductive fragmentation of a second molecule of AdoMet, yielding a 5'-deoxyadenosine radical, which then attacks the methylated sulfur atom of the polysulfide bridge, resulting in the transfer of a methylthiol group to aspartate89. The enzyme is a member of the superfamily of S-adenosyl-L-methionine-dependent radical (radical AdoMet) enzymes.

Synonyms

RimO; [ribosomal protein S12]-Asp89:sulfur-(sulfur carrier),S-adenosyl-L-methionine C3-methylthiotransferase

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 2.8.4.4

Reaction

L-aspartate89-[ribosomal protein S12] + sulfur-(sulfur carrier) + 2 S-adenosyl-L-methionine + reduced acceptor = 3-methylthio-L-aspartate89-[ribosomal protein S12] + S-adenosyl-L-homocysteine + (sulfur carrier) + L-methionine + 5'-deoxyadenosine + oxidized acceptor (overall reaction); (1a) S-adenosyl-L-methionine + L-aspartate89-[ribosomal protein S12] + sulfur-(sulfur carrier) = S-adenosyl-L-homocysteine + L-aspartate89-[ribosomal protein S12]-methanethiol + (sulfur carrier); (1b) L-aspartate89-[ribosomal protein S12]-methanethiol + S-adenosyl-L-methionine + reduced acceptor = 3-methylthio-L-aspartate89-[ribosomal protein S12] + L-methionine + 5'-deoxyadenosine + oxidized acceptor

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 ℃.