Creative Enzymes®

23S rRNA (adenine2503-C8)-methyltransferase

Cat. No. EXWM-1827

Lot. No. (See product label)

Introduction

Description	This enzyme is a member of the 'AdoMet radical' (radical SAM) family. S-Adenosyl-L-methionine acts as both a radical generator and as the source of the appended methyl group. It contains an [4Fe-S] cluster. Cfr is an plasmid-acquired methyltransferase that protects cells from the action of antibiotics. The enzyme methylates adenosine at position 2503 of 23S rRNA by a radical mechanism, transferring a CH2 group from S-adenosyl-L-methionine while retaining the hydrogen at the C-8 position of the adenine. Cfr first transfers an CH2 group to a conserved cysteine (Cys338 in Staphylococcus aureus), the generated radical from a second S-adenosyl-L-methionine then attacks the methyl group, exctracting a hydrogen. The formed radical forms a covalent intermediate with the adenine group of the tRNA. The enzyme will also methylate 2-methyladenine produced by the action of EC 2.1.1.192 [23S rRNA (adenine2503-C2)-methyltransferase].
Synonyms	Cfr (gene name)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 2.1.1.224
Reaction	2 S-adenosyl-L-methionine + adenine2503 in 23S rRNA + 2 reduced [2Fe-2S] ferredoxin = S-adenosyl-L-homocysteine + L-methionine + 5'-deoxyadenosine + 8-methyladenine2503 in 23S rRNA + 2 oxidized [2Fe-2S] ferredoxin
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 ℃.