Creative Enzymes®

# 23S rRNA (adenine2503-C2)-methyltransferase

*Cat. No. EXWM-1792*

*Lot. No.* (See product label)

## Introduction

**Description** Contains an [4Fe-4S] cluster. 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. RlmN first transfers an CH2 group to a conserved cysteine (Cys355 in Escherichia coli), 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. RlmN is an endogenous enzyme used by the cell to refine functions of the ribosome in protein synthesis. The enzyme methylates adenosine by a radical mechanism with CH2 from the S-adenosyl-L-methionine and retention of the hydrogen at C-2 of adenosine2503 of 23S rRNA. It will also methylate 8-methyladenosine2503 of 23S rRNA. cf. EC 2.1.1.224 [23S rRNA (adenine2503-C8)-methyltransferase].

**Synonyms** RlmN; YfgB; Cfr

## Product Information

**Form** Liquid or lyophilized powder

**EC Number** EC 2.1.1.192

**Reaction** (1) 2 S-adenosyl-L-methionine + adenine2503 in 23S rRNA + 2 reduced [2Fe-2S] ferredoxin = S-adenosyl-L-homocysteine + L-methionine + 5'-deoxyadenosine + 2-methyladenine2503 in 23S rRNA + 2 oxidized [2Fe-2S] ferredoxin; (2) 2 S-adenosyl-L-methionine + adenine37 in tRNA + 2 reduced [2Fe-2S] ferredoxin = S-adenosyl-L-homocysteine + L-methionine + 5'-deoxyadenosine + 2-methyladenine37 in tRNA + 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 ℃.