Creative Enzymes®

N-acetylmuramoyl-L-alanyl-D-glutamyl-L-lysyl-(N6-glycyl)-D-alanyl-D-alanine-diphosphoundecaprenyl-N-acetylglucosamine:glycine glycyltransferase

Cat. No. EXWM-2290

Lot. No. (See product label)

Introduction

Description

This enzyme catalyses the successive transfer of two Gly moieties from charged tRNAs to MurNAc-L-Ala-D-isoglutaminyl-L-Lys-(N6-Gly)-D-Ala-D-Ala-diphospho-ditrans,octacis-undecaprenyl-GlcNAc, attaching them to a Gly residue previously attached by EC 2.3.2.16 (lipid II:glycine glycyltransferase) to the N6 of the L-Lys at position 3 of the pentapeptide. This is the second step in the synthesis of the pentaglycine interpeptide bridge that is used by Staphylococcus aureus for the crosslinking of different glycan strands to each other. The next step is catalysed by EC 2.3.2.18 (N-acetylmuramoyl-L-alanyl-D-glutamyl-L-lysyl-(N6-triglycine)-D-alanyl-D-alanine-diphosphoundecaprenyl-N-acetylglucosamine:glycine glycyltransferase). This enzyme is essential for methicillin resistance.

Synonyms

femA (gene name); N-acetylmuramoyl-L-alanyl-D-glutamyl-L-lysyl-(N6-glycyl)-D-alanyl-D-alanine-ditrans,octacis-diphosphoundecaprenyl-N-acetylglucosamine:glycine glycyltransferase

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 2.3.2.17

Reaction

MurNAc-L-Ala-D-isoglutaminyl-L-Lys-(N6-Gly)-D-Ala-D-Ala-diphospho-ditrans,octacis-undecaprenyl-GlcNAc + 2 glycyl-tRNAGly = MurNAc-L-Ala-D-isoglutaminyl-L-Lys-(N6-tri-Gly)-D-Ala-D-Ala-diphospho-ditrans,octacis-undecaprenyl-GlcNAc + 2 tRNAGly

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 ℃.