Creative Enzymes®

D-aspartate ligase

Cat. No. EXWM-5715

Lot. No. (See product label)

Introduction

Description This enzyme forms part of the peptidoglycan assembly pathway of Gram-positive bacteria grown in medium containing D-Asp. Normally, the side chains the acylate the 6-amino group of the L-lysine residue contain L-Ala-L-Ala but these amino acids are replaced by D-Asp when D-Asp is included in the medium. Hybrid chains containing L-Ala-D-Asp, L-Ala-L-Ala-D-Asp or D-Asp-L-Ala are not formed. The enzyme belongs in the ATP-grasp protein superfamily. The enzyme is highly specific for D-aspartate, as L-aspartate, D-glutamate, D-alanine, D-iso-asparagine and D-malic acid are not substrates. In Enterococcus faecium, the substrate D-aspartate is produced by EC 5.1.1.13, aspartate racemase

Synonyms Aslfm; UDP-MurNAc-pentapeptide:D-aspartate ligase; D-aspartic acid-activating enzyme

Product Information

Form Liquid or lyophilized powder

EC Number EC 6.3.1.12

Reaction ATP + D-aspartate + [β-GlcNAc-(1→4)-Mur2Ac(oyl-L-Ala-γ-D-Glu-L-Lys-D-Ala-D-Ala)]n = [β-GlcNAc-(1→4)-Mur2Ac(oyl-L-Ala-γ-D-Glu-6-N-(β-D-Asp)-L-Lys-D-Ala-D-Ala)]n + ADP + phosphate

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 ℃.