Creative Enzymes®

geranylgeranylglycerol-phosphate geranylgeranyltransferase

Cat. No. EXWM-2778

Lot. No. (See product label)

Introduction

Description

This enzyme is an integral-membrane protein that carries out the second prenyltransfer reaction involved in the formation of polar membrane lipids in Archaea. Requires a divalent metal cation, such as Mg2+ or Mn2+, for activity. 4-Hydroxybenzoate, 1,4-dihydroxy 2-naphthoate, homogentisate and α-glycerophosphate cannot act as prenyl-acceptor substrates. The other enzymes involved in the biosynthesis of polar lipids in Archaea are EC 1.1.1.261 (sn-glycerol-1-phosphate dehydrogenase), EC 2.5.1.41 (phosphoglycerol geranylgeranyltransferase), which, together with this enzyme, alkylates the hydroxy groups of glycerol 1-phosphate to yield unsaturated archaetidic acid, which is acted upon by EC 2.7.7.67 (CDP-archaeol synthase) to form CDP-unsaturated archaeol. The final step in the pathway involves the addition of L-serine, with concomitant removal of CMP, leading to the production of unsaturated archaetidylserine. Belongs in the UbiA prenyltransferase family.

Synonyms

geranylgeranyloxyglycerol phosphate geranylgeranyltransferase; geranylgeranyltransferase II; (S)-2,3-di-O-geranylgeranylglyceryl phosphate synthase; DGGGP synthase; DGGGPS; geranylgeranyl diphosphate:sn-3-O-(geranylgeranyl)glycerol 1-phosphate geranylgeranyltransferase

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 2.5.1.42

CAS No.

124650-68-6

Reaction

geranylgeranyl diphosphate + 3-(O-geranylgeranyl)-sn-glycerol 1-phosphate = diphosphate + 2,3-bis-(O-geranylgeranyl)-sn-glycerol 1-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 ℃.