Creative Enzymes®

phosphoglycerol geranylgeranyltransferase

Cat. No. EXWM-2777

Lot. No. (See product label)

Introduction

Description	This cytosolic enzyme catalyses the first pathway-specific step in the biosynthesis of the core membrane diether lipids in archaebacteria. Requires Mg2+ for maximal activity. It catalyses the alkylation of the primary hydroxy group in sn-glycerol 1-phosphate by geranylgeranyl diphosphate (GGPP) in a prenyltransfer reaction where a hydroxy group is the nucleophile in the acceptor substrate. The other enzymes involved in the biosynthesis of polar lipids in Archaea are EC 1.1.1.261 (sn-glycerol-1-phosphate dehydrogenase), EC 2.5.1.42 (geranylgeranylglycerol-phosphate geranylgeranyltransferase) and EC 2.7.7.67 (CDP-archaeol synthase), which lead to the formation of 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.
Synonyms	glycerol phosphate geranylgeranyltransferase; geranylgeranyl-transferase (ambiguous); prenyltransferase (ambiguous); (S)-3-O-geranylgeranylglyceryl phosphate synthase; (S)-geranylgeranylglyceryl phosphate synthase; GGGP synthase; (S)-GGGP synthase; GGGPS; geranylgeranyl diphosphate:sn-glyceryl phosphate geranylgeranyltransferase; geranylgeranyl diphosphate:sn-glycerol-1-phosphate geranylgeranyltransferase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 2.5.1.41
CAS No.	124650-69-7
Reaction	geranylgeranyl diphosphate + sn-glycerol 1-phosphate = diphosphate + 3-(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 ℃.