

## 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  $Mg^{2+}$  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 (geranylgeranylgeracyl-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-geranylgeranylgeracyl phosphate synthase; (S)-geranylgeranylgeracyl phosphate synthase; GGGP synthase; (S)-GGGP synthase; GGGPS; geranylgeranyl diphosphate:sn-glycerol 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 °C for short term. For long term storage, store it at -20 °C~-80 °C.