Creative Enzymes®

glucosyl-3-phosphoglycerate synthase

Cat. No. EXWM-2497

Lot. No. (See product label)

Introduction

Description	The enzyme is involved in biosynthesis of 2-O-(α-D-glucopyranosyl)-D-glycerate via the two-step pathway in which glucosyl-3-phosphoglycerate synthase catalyses the conversion of GDP-glucose and 3-phospho-D-glycerate into 2-O-(α-D-glucopyranosyl)-3-phospho-D-glycerate, which is then converted to 2-O-(α-D-glucopyranosyl)-D-glycerate by EC 3.1.3.85 glucosyl-3-phosphoglycerate phosphatase. The activity is dependent on divalent cations (Mn2+, Co2+, or Mg2+). The enzyme from Persephonella marina shows moderate flexibility on the sugar donor concerning the nucleotide moiety (UDP-glucose, ADP-glucose, GDP-glucose) but is strictly specific for glucose. The enzyme is also strictly specific for 3-phospho-D-glycerate as acceptor. The enzyme from Methanococcoides burtonii is strictly specific for GDP-glucose and 3-phospho-D-glycerate. This enzyme catalyses the first glucosylation step in methylglucose lipopolysaccharide biosynthesis in mycobacteria.
Synonyms	GpgS protein; GPG synthase; glucosylphosphoglycerate synthase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 2.4.1.266
Reaction	NDP-glucose + 3-phospho-D-glycerate = NDP + 2-O-(α-D-glucopyranosyl)-3-phospho-D-glycerate
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 ℃.