Creative Enzymes®

sn-glycerol-1-phosphate dehydrogenase

Cat. No. EXWM-0167

Lot. No. (See product label)

Introduction

Description This enzyme is found primarily as a Zn2+-dependent form in archaea but a Ni2+-dependent form has been found in Gram-positive bacteria. The Zn2+-dependent metalloenzyme is responsible for the formation of archaea-specific sn-glycerol-1-phosphate, the first step in the biosynthesis of polar lipids in archaea. It is the enantiomer of sn-glycerol 3-phosphate, the form of glycerophosphate found in bacteria and eukaryotes. The other enzymes involved in the biosynthesis of polar lipids in archaea are EC 2.5.1.41 (phosphoglycerol geranylgeranyltransferase) and EC 2.5.1.42 (geranylgeranylglycerol-phosphate geranylgeranyltransferase), which together alkylate the hydroxy groups of glycerol 1-phosphate to give 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. Activity of the enzyme is stimulated by K+.

Synonyms glycerol-1-phosphate dehydrogenase [NAD(P)+]; sn-glycerol-1-phosphate:NAD+ oxidoreductase; G-1-P dehydrogenase; Gro1PDH; AraM

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.1.1.261

CAS No. 204594-18-3

Reaction sn-glycerol 1-phosphate + NAD(P)+ = glycerone phosphate + NAD(P)H + H+

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 ℃.