Creative Enzymes®

phosphoglycerate dehydrogenase

Cat. No. EXWM-0379

Lot. No. (See product label)

Introduction

Description This enzyme catalyses the first committed step in the phosphoserine pathway of serine biosynthesis in Escherichia coli. Reaction (1) occurs predominantly in the reverse direction and is inhibited by serine and glycine. The enzyme is unusual in that it also acts as a D- and L-2-hydroxyglutarate dehydrogenase (with the D-form being the better substrate) and as a 2-oxoglutarate reductase. It has been postulated that the cellular 2-oxoglutarate concentration may regulate serine biosynthesis and one-carbon metabolism directly by modulating the activity of this enzyme.

Synonyms D-3-phosphoglycerate:NAD+ oxidoreductase; α-phosphoglycerate dehydrogenase; 3-phosphoglycerate dehydrogenase; 3-phosphoglyceric acid dehydrogenase; D-3-phosphoglycerate dehydrogenase; glycerate 3-phosphate dehydrogenase; glycerate-1,3-phosphate dehydrogenase; phosphoglycerate oxidoreductase; phosphoglyceric acid dehydrogenase; SerA; 3-phosphoglycerate:NAD+ 2-oxidoreductase; SerA 3PG dehydrogenase; 3PHP reductase; αKG reductase; D- and L-HGA

Product Information

Form Liquid or lyophilized powder

EC Number EC 1.1.1.95

CAS No. 9075-29-0

Reaction (1) 3-phospho-D-glycerate + NAD+ = 3-phosphonooxypyruvate + NADH + H+; (2) 2-hydroxyglutarate + NAD+ = 2-oxoglutarate + NADH + 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 ℃.