

## 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<sup>+</sup> 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<sup>+</sup> 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<sup>+</sup> = 3-phosphonoxypropionate + NADH + H<sup>+</sup>; (2) 2-hydroxyglutarate + NAD<sup>+</sup> = 2-oxoglutarate + NADH + H<sup>+</sup>

**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.