

## Native *Zymomonas mobilis* Glucose-6-Phosphate Dehydrogenase

Cat. No. NATE-1898

Lot. No. (See product label)

### Introduction

**Description** Glucose-6-phosphate dehydrogenase (G6PD or G6PDH) (EC 1.1.1.49) is a cytosolic enzyme that catalyzes the chemical reaction: D-glucose 6-phosphate + NADP<sup>+</sup> ↔ 6-phospho-D-glucono-1,5-lactone + NADPH + H<sup>+</sup>. This enzyme is in the pentose phosphate pathway, a metabolic pathway that supplies reducing energy to cells (such as erythrocytes) by maintaining the level of the co-enzyme nicotinamide adenine dinucleotide phosphate (NADPH).

**Applications** The enzyme is useful for diagnostic reagent, for example, glucose determination or CK determination, and for the specific determination of glucose.

**Synonyms** Glucose-6-phosphate dehydrogenase; G6PD; G6PDH; Glucose-6-phosphate dehydrogenase (NADP(+)); EC 1.1.1.49; Glucose-6-phosphate 1-dehydrogenase; Glucose-6-phosphate dehydrogenase; GPD

### Product Information

**Source** *Zymomonas mobilis*

**Appearance** Lyophilized

**EC Number** EC 1.1.1.49

**CAS No.** 9001-40-5

**Molecular Weight** ca. 208000; Subunit molecular weight: ca. 52,000

**Specific Activity** more than 250 U/mg protein

**Contaminants** (as ZM-G6PDH activity = 100 %) Glucokinase : <0.02 % Phosphoglucomutase: <0.01 % 6-Phosphogluconate dehydrogenase : <0.02 % Hexose-6-phosphate isomerase: <0.01 % Glutathione reductase: <0.01 %

**pH Stability** 5.0 - 10.0

**Optimum pH** 8

**Thermal stability** No detectable decrease in activity up to 50 °C

**Michaelis Constant** (30 mM Tris-HCl buffer, pH 8.0, at 30 °C) Glucose 6-phosphate: 0.14 mM; NADP<sup>+</sup>: 0.02 mM; NAD<sup>+</sup>: 0.14 mM.

**Specificity** NADP<sup>+</sup>: 70 %; NAD<sup>+</sup>: 100 %.

**Unit Definition** One unit of activity is defined as the amount of ZM-G6PDH that forms 1 μmol of NADH per minute at 30 °C.

**Reaction** D-Glucose 6-phosphate + NAD(P) + ↔ D-Gluconolactone 6-phosphate + NAD(P)H + H<sup>+</sup>

### Storage and Shipping Information

**Storage** Stable at -20 °C for at least one year

