

## Native *Pediococcus* sp. Glycerol 3-phosphate Oxidase

Cat. No. NATE-0315

Lot. No. (See product label)

### Introduction

**Description** In enzymology, a glycerol-3-phosphate oxidase (EC 1.1.3.21) is an enzyme that catalyzes the chemical reaction: sn-glycerol 3-phosphate + O<sub>2</sub> ⇌ glycerone phosphate + H<sub>2</sub>O<sub>2</sub>. Thus, the two substrates of this enzyme are sn-glycerol 3-phosphate and O<sub>2</sub>, whereas its two products are glycerone phosphate and H<sub>2</sub>O<sub>2</sub>. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with oxygen as acceptor. This enzyme participates in glycerophospholipid metabolism. It employs one cofactor, FAD.

**Applications** This enzyme is useful for enzymatic determination of triglyceride when coupled with lipoprotein lipase and glycerokinase in clinical analysis.

**Synonyms** EC 1.1.3.21; glycerol phosphate oxidase; glycerol-1-phosphate oxidase; glycerol phosphate oxidase; L-α-glycerophosphate oxidase; α-glycerophosphate oxidase; L-α-glycerol-3-phosphate oxidase; Glycerol 3-phosphate Oxidase; 9046-28-0; sn-Glycerol 3-phosphate:oxygen 2-oxidoreductase; L-Glycerol 3-phosphate Oxidase; GPO

### Product Information

<b>Source</b>	<i>Pediococcus</i> sp.
<b>Form</b>	Lyophilized powder containing stabilizers
<b>EC Number</b>	EC 1.1.3.21
<b>CAS No.</b>	9046-28-0
<b>Molecular Weight</b>	~76 kDa (gel filtration)
<b>Activity</b>	40-80 units/mg solid
<b>Isoelectric point</b>	4.1-/±0.1
<b>pH Stability</b>	6.5-8.5 (25°C, 20hr)
<b>Optimum pH</b>	35-40°C
<b>Thermal stability</b>	below 40°C (pH 7.0, 15min)
<b>Michaelis Constant</b>	3.2x10 <sup>-3</sup> M (L-α-Glycerophosphate), 6.8 x 10 <sup>-3</sup> M (D, L-form)
<b>Inhibitors</b>	Ionic detergents (SDS, LBS, etc.), Hg <sup>++</sup> , Ag <sup>+</sup>
<b>Unit Definition</b>	One unit will oxidize 1.0 μmole of L-glycerol 3-phosphate to dihydroxyacetone phosphate with the formation of H <sub>2</sub> O <sub>2</sub> per min at 37°C, at the appropriate pH.

### Storage and Shipping Information

**Storage** 2-8°C

