

## Native *Pediococcus* sp. L- $\alpha$ -glycerophosphate oxidase

Cat. No. DIA-199

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>  $\leftrightarrow$  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** L- $\alpha$ -glycerophosphate oxidase; sn-glycerol-3-phosphate: oxygen 2-oxidoreductase; glycerol phosphate oxidase; glycerol-1-phosphate oxidase; glycerol phosphate oxidase; L-alpha-glycerophosphate oxidase; alpha-glycerophosphate oxidase; L-alpha-glycerol-3-phosphate oxidase; EC 1.1.3.21

### Product Information

<b>Source</b>	<i>Pediococcus</i> sp.
<b>Appearance</b>	Yellowish amorphous powder, lyophilized
<b>EC Number</b>	EC 1.1.3.21
<b>CAS No.</b>	9046-28-0
<b>Molecular Weight</b>	approx. 76 kDa (by gel filtration)
<b>Activity</b>	Gradell 40 U/mg-solid or more (containing approx. 40% of stabilizers)
<b>Contaminants</b>	Lactate oxidase < 1.0 $\times$ 10 <sup>-3</sup> %
<b>Isoelectric point</b>	4.1 $\pm$ 0.1
<b>pH Stability</b>	pH 6.5-8.5 (25°C, 20hr)
<b>Optimum pH</b>	8.0-8.5
<b>Thermal stability</b>	below 40°C (pH 7.0, 15min)
<b>Optimum temperature</b>	35-40°C
<b>Michaelis Constant</b>	3.2 $\times$ 10 <sup>-3</sup> M (L- $\alpha$ -Glycerophosphate), 6.8 $\times$ 10 <sup>-3</sup> M (D, L-form)
<b>Specificity</b>	The enzyme has the highest specificity for L-form of $\alpha$ -glycerophosphate.
<b>Inhibitors</b>	Ionic detergents (SDS, LBS, etc.), Hg <sup>++</sup> , Ag <sup>+</sup>
<b>Stabilizers</b>	Sucrose, FAD

### ***Storage and Shipping Information***

**Stability**      Stable at -20°C for at least one year (A decrease in activity of ca. 10% may occur at 5°C within 6 months.)