

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 + O₂ ⇌ glycerone phosphate + H₂O₂. Thus, the two substrates of this enzyme are sn-glycerol 3-phosphate and O₂, whereas its two products are glycerone phosphate and H₂O₂. 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

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

Storage and Shipping Information

Storage 2-8°C

