Native Pediococcus sp. L-α-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 + 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	L-α-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

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

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.)