

Native Microorganisms Pyruvate Oxidase

Cat. No. NATE-0613

Lot. No. (See product label)

Introduction

Description Pyruvate Oxidase consists of four subunits with identical molecular weights. PoxB reacts with certain aldehydes and phosphate can be replaced by arsenate. Oxygen as well as several artificial compounds can function as electron acceptors. Pyruvate Oxidase is activated by phospholipids as well as monomeric and micellar amphiphiles.

Applications Pyruvate Oxidase (PoxB) converts pyruvate directly to acetate and CO₂. It is used to study pyruvate metabolism. It is used to study aerobic metabolism of bacterium, such as *Lactobacillus plantarum* and *Streptococcus pneumoniae*. Pyruvate Oxidase is used for enzymatic determination of pyruvate, GOT, and GPT in clinical analysis.

Synonyms pyruvate oxidase; EC 1.2.3.3; pyruvic oxidase; phosphate-dependent pyruvate oxidase; 9001-96-1; Pyruvate:oxygen oxidoreductase (phosphorylating); PoxB

Product Information

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|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source | Microorganisms |
| Form | Lyophilized powder containing FAD and sugar as stabilizer |
| EC Number | EC 1.2.3.3 |
| CAS No. | 9001-96-1 |
| Molecular Weight | mol wt ~260 kDa |
| Activity | > 1.5 units/mg; > 35 units/mg protein (biuret) |
| Isoelectric point | 4.3 |
| pH Stability | pH 5.7-6.5 (25°C, 20hr) |
| Optimum pH | 5.7 |
| Thermal stability | below 45°C (pH 6.0, 15min) |
| Optimum temperature | 65°C |
| Michaelis Constant | 3.4 X 10 ⁻⁴ M (Pyruvate) |
| Inhibitors | Fe ⁺⁺ , Zn ⁺⁺ , Cu ⁺⁺ , Ag ⁺ , Hg ⁺⁺ |
| Unit Definition | One unit will produce 1.0 μmole of H ₂ O ₂ per min during the conversion of pyruvate and phosphate to acetylphosphate and CO ₂ at pH 5.7 at 37°C. |

Storage and Shipping Information

Storage -20°C

