

Native Pyruvate decarboxylase from Thermophilic bacteria

Cat. No. NATE-1159

Lot. No. (See product label)

Introduction

Description Pyruvate decarboxylase (PDC) is a homotetrameric enzyme that catalyses the decarboxylation of pyruvic acid to acetaldehyde and carbon dioxide in the cytoplasm. Pyruvate decarboxylase depends on cofactors thiamine pyrophosphate (TPP) and magnesium. PDC contains a β - α - β structure, yielding parallel β -sheets.

Applications C-C bond formation: ligation of two aldehyde molecules enantioselectively to 2-hydroxy ketones; preparation of (R)-phenylacetylcarbinol (PAC)

Synonyms Pyruvate decarboxylase; EC 4.1.1.1; α -carboxylase (ambiguous); pyruvic decarboxylase; α -ketoacid carboxylase; 2-oxo-acid carboxy-lyase; 9001-04-1; 2-Oxo-acid carboxy-lyase; PDC

Product Information

Source Thermophilic bacteria

Form Frozen Liquid

EC Number EC 4.1.1.1

CAS No. 9001-04-1

Optimum pH 6

Thermal stability 100% stability after 1 hour at 50°C

Buffer 20 mM Tris-HCl (pH 7.5), 20 mM KCl

Unit Definition One unit is defined as the amount of enzyme oxidizing 1 μ mol of NADH ($\epsilon_{340}=6.22$ mM⁻¹ cm⁻¹) per 1 minute using pyruvate as a substrate.

Storage and Shipping Information

Storage Store at -20°C