

Native *Proteus* sp. L-Glutamic Dehydrogenase (NADP)

Cat. No. NATE-0395

Lot. No. (See product label)

Introduction

Description

L-glutamic dehydrogenase catalyzes the conversion of glutamate to α -ketoglutarate.

Applications

This enzyme is useful for enzymatic determination of NH_3 , α -ketoglutaric acid and L-glutamic acid, and for assay of leucine aminopeptidase and urease. This enzyme is also used for enzymatic determination of urea when coupled with urease (URH-201) in clinical analysis.

Synonyms

L-Glutamic Dehydrogenase; EC 1.4.1.4; 9029-11-2; glutamic dehydrogenase; dehydrogenase, glutamate (nicotinamide adenine dinucleotide (phosphate)); glutamic acid dehydrogenase; L-glutamate dehydrogenase; L-glutamic acid dehydrogenase; NAD (P)-glutamate dehydrogenase; NAD (P)H-dependent glutamate dehydrogenase; glutamate dehydrogenase (NADP)

Product Information

Source

Proteus sp.

Form

buffered aqueous solution; Solution in 50 mM Tris HCl, pH 7.8, 5 mM Na_2EDTA containing 0.05% sodium azide

EC Number

EC 1.4.1.4

CAS No.

9029-11-2

Molecular Weight

mol wt ~300 kDa

Activity

> 400 units/mg protein (biuret)

Isoelectric point

4.6

pH Stability

pH 6.0-8.5 (25°C, 20hr)

Optimum pH

8.5 (α -KG \rightarrow L-Glu) 9.8 (L-Glu $\rightarrow\alpha$ -KG)

Thermal stability

below 50°C (pH 7.4, 10min)

Optimum temperature

45°C (α -KG \rightarrow L-Glu) 45-55°C (L-Glu $\rightarrow\alpha$ -KG)

Michaelis Constant

$1.1 \times 10^{-3}\text{M}$ (NH_3), $3.4 \times 10^{-4}\text{M}$ (α -Ketoglutarate) $1.2 \times 10^{-3}\text{M}$ (L-Glutamate), $1.4 \times 10^{-5}\text{M}$ (NADPH), $1.5 \times 10^{-5}\text{M}$ (NADP $^+$) Structure : 6 subunits (M.W.50 kDa) per mol of enzyme

Inhibitors

Hg^{++} , Cd^{++} , p-chloromercuribenzoate, pyridine, 4-4'-dithiopyridine, 2,2'-dithiopyridine

Unit Definition

One unit will reduce 1.0 μmole of α -ketoglutarate to L-glutamate per min at pH 8.3 at 30°C in the presence of ammonium ions and NADPH.

Storage and Shipping Information

Storage

-20°C

