Creative Enzymes®

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 NH3, 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 Na2EDTA 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→L-Glu) 9.8 (L-Glu→α-KG)
Thermal stability	below 50°C (pH 7.4, 10min)
Optimum temperature	45°C (α-KG−L-Glu) 45-55°C (L-Glu→α-KG)
Michaelis Constant	1.1 X 10-3M (NH3), 3.4 X 10-4M (α-Ketoglutarate) 1.2 X 10-3M (L-Glutamate), 1.4 X 10-5M (NADPH), 1.5 X 10-5M (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	2-8°C