

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 α -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 α -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** 2-8°C