

Native Proteus sp. Glutamate Dehydrogenase (NADPdependent)

Cat. No. DIA-196 Lot. No. (See product label)

Introduction Description Glutamate dehydrogenase (GLDH) is an enzyme, present in most microbes and the mitochondria of eukaryotes, as are some of the other enzymes required for urea synthesis, that converts glutamate to α-ketoglutarate, and vice versa. In animals, the produced ammonia is usually used as a substrate in the urea cycle. Typically, the α -ketoglutarate to glutamate reaction does not occur in mammals, as glutamate dehydrogenase equilibrium favours the production of ammonia and α -ketoglutarate. This enzyme is useful for enzymatic determination of NH_3 , α -ketoglutaric acid and L-glutamic acid, and Applications for assay of leucine aminopeptidase and urease. This enzyme is also used for enzymatic determination of urea when coupled with urease in clinical analysis. glutamate dehydrogenase (NADP+); glutamic dehydrogenase; dehydrogenase; glutamate Synonyms (nicotinamide adenine dinucleotide (phosphate)); glutamic acid dehydrogenase; L-glutamate dehydrogenase; L-glutamic acid dehydrogenase; NAD(P)-glutamate dehydrogenase; NAD(P)Hdependent glutamate dehydrogenase; glutamate dehydrogenase (NADP); EC 1.4.1.4; GLDH

Product Information

Source	Proteus sp.
Appearance	Solution with 50mM Tris-HCl buffer containing 0.05% NaN $_3$ and 5.0mM EDTA, pH 7.8
EC Number	EC 1.4.1.4
CAS No.	2604121
Molecular Weight	approx. 300 kDa
Activity	Gradell•lll 300U/mg-protein or more (9,000U/ml or more)
Contaminants	NADPH oxidase < 1.0×10^{-2} % Glutathione reductase < 1.0×10^{-2} % (Gradell-209) < 1.0×10^{-1} % (Gradell-309)
lsoelectric 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	1.1×10 ⁻³ M (NH ₃), 3.4×10 ⁻⁴ M (α-Ketoglutarate), 1.2×10 ⁻³ M (L-Glutamate), 1.4×10 ⁻⁵ M (NADPH), 1.5×10 ⁻⁵ M (NADP ⁺)
Structure	6 subunits (M.W.50,000) per mol of enzyme
Inhihitors	Ha++ Cd++ n-chloromercuribenzoate nyridine 4-4'-dithionyridine 2 2'-dithionyridine

ministers	rig , eu , p enioromereurbenzoute, pyname, 4 4 anthopyname, 2,2 althopyname
Stabilizers	Ethylenediaminetetraacetic acid (EDTA)
Storage and Shipping Information	
Stability	Stable at 5°C for at least 6 months

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