

# Native Bovine Glutamate Dehydrogenase

Cat. No. DIA-146

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  $\alpha$ -ketoglutarate, and vice versa. In animals, the produced ammonia is usually used as a substrate in the urea cycle. Typically, the  $\alpha$ -ketoglutarate to glutamate reaction does not occur in mammals, as glutamate dehydrogenase equilibrium favours the production of ammonia and  $\alpha$ -ketoglutarate.

### Synonyms

glutamate dehydrogenase [NAD(P)+]; EC 1.4.1.3; GLDH; glutamic dehydrogenase; glutamate dehydrogenase [NAD(P)]; L-glutamate: NAD(P)+ oxidoreductase (deaminating); L-GLDH; Glutamate Dehydrogenase from bovine liver; L-Glutamic Dehydrogenase; glutamate dehydrogenase

## Product Information

<b>Species</b>	Bovine
<b>Source</b>	Bovine liver
<b>Appearance</b>	White/off white powder
<b>Form</b>	Freeze dried powder
<b>EC Number</b>	EC 1.4.1.3
<b>CAS No.</b>	9001-46-1
<b>Molecular Weight</b>	260 kDa (gel)
<b>Activity</b>	> 500U /mg protein
<b>Isoelectric point</b>	pH5.6
<b>pH Stability</b>	5.0~11.0
<b>Optimum pH</b>	8.5( $\alpha$ -KG→L-Glu)
<b>Thermal stability</b>	< 60°C (pH8.3, 10min)
<b>Optimum temperature</b>	45°C
<b>Michaelis Constant</b>	9.5×10 <sup>-3</sup> M (NH <sub>3</sub> ); 5.0×10 <sup>-3</sup> M ( $\alpha$ -Ketoglutarate); 8.4×10 <sup>-5</sup> M (NADH)
<b>Inhibitors</b>	Ag <sup>+</sup> , Hg <sup>2+</sup> , Cu <sup>2+</sup> , Zn <sup>2+</sup> .
<b>Pathway</b>	Arginine and proline metabolism; D-Glutamine and D-glutamate metabolism; Glutamate metabolism; Nitrogen metabolism; Metabolism of amino acids.
<b>Function</b>	ATP binding; GTP binding; glutamate dehydrogenase [NAD(P)+] activity; glutamate dehydrogenase activity; nucleotide binding; oxidoreductase activity.

**Unit Definition** One unit will convert one micromole of  $\alpha$ -ketoglutarate to L-glutamate per min at

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One unit will convert one micromole of α-ketoglutarate to L-glutamate per min at pH 8.3 at 30°C.

**Usage and Packaging****Preparation Instructions**

The enzyme is reconstituted in 100mM Tris-HCl buffer, pH 8.3 for activity assay.

**Storage and Shipping Information****Storage**

-20°C