

Glutamate dehydrogenase (EC 1.4.1.4), *Escherichia coli*

Catalogue number:

AE00051, 3300 U (57 mg)

Description

Recombinant glutamate dehydrogenase (EC 1.4.1.4) is purified from a modified *E. coli* strain. Glutamate dehydrogenase 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 reversibly glutamate to α -ketoglutarate. In animals, the produced ammonia is, however, usually bled off to the urea cycle. In bacteria the ammonia is assimilated to amino acids via glutamate and amidotransferases. In plants, the enzyme can work in either direction depending on environment and stress. The enzyme is provided in 2.5 M lithium sulphate. Swirl to mix the enzyme suspension immediately prior to use.

Purity

Glutamate dehydrogenase has been determined to be >95% pure, according to SDS polyacrylamide gel electrophoresis (PAGE) followed by Coomassie Blue staining (Figure 1).

Storage temperature

Glutamate dehydrogenase should be stored at 2 °C to 8 °C.

Temperature and pH optimum

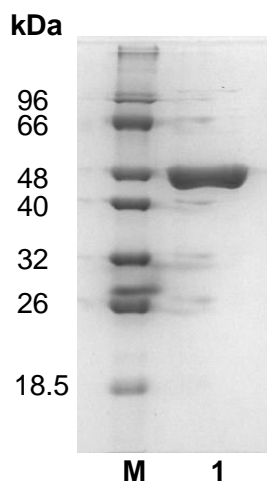
The optimum pH and temperature are 7.5 and 25 °C, respectively.

Specific activity

58.5 U/mg, 330 U/ml.

Unit definition

One Unit is defined as the amount of enzyme required to produce one micromole of NADP⁺ from NADPH at 25 °C and pH 7.5.



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Figure 1. SDS-PAGE analysis of *E. coli* Glutamate dehydrogenase. Electrophoresis was performed using a 12% polyacrylamide gel. Lane M, molecular weight marker; Lane 1, purified Glutamate dehydrogenase (48.6 kDa).

Certificate of Analysis

Test	Criteria	Result
Protein purity	Purity in line with the stated value	Meets specification
Protein concentration	Concentration in line with the stated value	Meets specification
Catalytic activity	Activity in line with the stated value	Meets specification
Blank assay variability	Absorbance values with less than 10% of variability	Meets specification

Approved by:



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