AE0006_UG_EN_V2302

Aspartate aminotransferase (EC 2.6.1.1), *Escherichia coli*

Catalogue number	Presentation
AE00061	5000 U (10 mL)

Description

Aspartate aminotransferase (EC 2.6.1.1) is purified from a recombinant *E. coli* strain. Aspartate aminotransferase, formerly known as L-glutamic-oxaloacetic transaminase, is a pyridoxal phosphate-dependent enzyme present in hepatocytes and myocytes that catalyses the reversible transfer of an amine group from glutamic acid to oxaloacetic acid, forming alpha-ketoglutaric acid and aspartic acid. It is raised in conditions that affect the heart and liver such as viral hepatitis and myocardial infarction. Following damage to these cells, the enzyme is released into the blood where the level can be measured. The enzyme is provided in 3.2 M ammonium sulphate. Swirl the enzyme mix immediately prior to use.

Purity

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

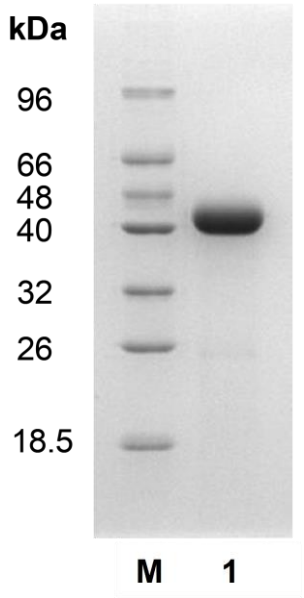

Figure 1. SDS-PAGE analysis of *E. coli* aspartate aminotransferase. Electrophoresis was performed using a 12% polyacrylamide gel. Lane M, molecular weight marker; Lane 1, purified Aspartate aminotransferase (45 kDa).

Storage temperature

Aspartate aminotransferase should be stored at 2 °C to 8 °C.

Temperature and pH optimum

The optimum pH and temperature are 8.5 and 25 °C, respectively.

Activity

500 U/mL

Unit Definition

One unit is defined as the amount of enzyme required to produce 1 mmol of NAD^+ from NADH in a reaction mixture containing 135 mM Tris-HCl, pH 8.5, 30 mM L-Aspartic acid, 30 mM α-Ketoglutaric acid, 0.24 mM NADH and 40 U/ml of L-Malate dehydrogenase, at 25 °C.

Substrate specificity

Under the reaction conditions specified the enzyme does not present any other detectable enzymatic activities.

Recommendations

For assay, this enzyme should be diluted in 3 µM pyridoxal phosphate containing 1 mg/mL BSA. Swirl to mix the enzyme suspension immediately prior to use.

References

Kuramitsu S et al. (1985) Journal of Biochemistry 97, 1259–62.