

Glutamic Oxaloacetic Transaminase, Enzyme Activity

Catalog	Unit
TBP0069-1KU	1000 U
TBP0069-5KU	5000 U

Product Details

Synonyms: Aspartate Aminotransferase; AST; GOT; Glutamic Oxalacetic Transaminase

Form: Liquid

Stability: Store at -20 °C

Activity: 310 U/mg

Contaminants: CPK: < 0.1%

GPT/ALT: < 0.1%

LDH: < 0.1%

GLDH: < 0.1%

MDH: < 0.01%

Protease: < 0.1%

Ammonia: < 0.005 micromole/mg

Unit Definition

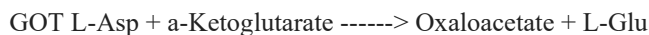
One unit will catalyze the transamination of one micromole of L-aspartate to alpha-ketoglutarate forming L-glutamate and oxaloacetate per minute at 37°C and pH 7.8

Assay Method

The assay is based on a coupled reaction where the oxaloacetate formed is reduced to malate in the presence of NADH and malate dehydrogenase. The decrease in the absorbance at 340 nm caused by the oxidation of NADH is proportional to the catalytic activity of GOT.

Applications

(L-Aspartate: a-Ketoglutarate amino transferase, EC 2.6.1.1) Glutamic oxaloacetic transaminase (GOT), also known as aspartate aminotransferase, catalyzes the following reaction:



The enzyme is widely distributed in plants and animals, but it occurs in concentrated form in mammalian heart and liver. GOT requires pyridoxal phosphate as a coenzyme for its activity. It exists as two isozyme forms, the mitochondrial form (M-GOT) and the cytosol form (S-GOT). GOT from porcine heart has a molecular weight in the range of 91,000-94,000. Serum GOT levels in healthy subjects are low, but the levels are significantly elevated in a number of clinical conditions such as acute and chronic hepatitis, obstructive jaundice, carcinoma of liver, myocardial infarction and muscular dystrophy. Therefore, determination of serum GOT level has great clinical and diagnostic significance. In addition, GOT has applications in coupled enzyme reactions for measurement of metabolite levels in biological fluids.

Calculation

$$\text{Activity (U/mg)} = \frac{(\Delta E_{340\text{nm}/\text{min}})(\text{Total Vol.})(\text{Enz. Diln.})}{(6.22)(\text{Enz. Vol.})(\text{mg Enz./ml})}$$

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