AE0021_UG_EN_V2302

Arginase (EC 3.5.3.1), *Homo sapiens liver*

Catalogue number	Presentation
AE00211	1950 U (1 ml)

Description

Arginase (L-arginine amidinohydrolase, EC 3.5.3.1) is a manganese-containing enzyme that catalyses the hydrolysis of L-arginine to L-ornithine and urea. It is abundantly present in the liver of ureotelic animals, where catalyses the final step in the urea cycle. The deficiency, known as hyperargininemia or arginemia, is hereditary and autosomal recessive. It is characterized by lowered activity of arginase in hepatic cells. Symptoms of the disorder include neurological impairment, dementia, retardation of growth and hyperammonemia. NZYtech`s arginase comprises the recombinant human liver enzyme expressed and purified from a modified *Escherichia coli* strain. The enzyme is provided in 2.5 M lithium sulphate.

Purity

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

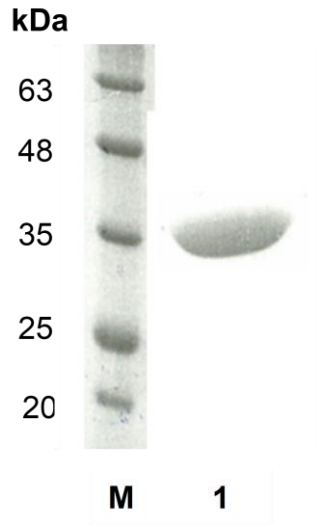

Figure 1. SDS-PAGE analysis of human liver arginase. Electrophoresis was performed using a 12% polyacrylamide gel. Lane M, molecular weight marker; Lane 1, purified arginase (35 kDa).

Storage temperature

Arginase should be stored at 2°C to 8°C.

Temperature and pH optimum

The optimum ranges of pH and temperature are 10-11 and 25-40 °C, respectively.

Activity

1950 U/ml

Unit Definition

One unit is defined as the amount of enzyme required to produce 1 µmol of urea for 1 min, at 30 °C, in a reaction mixture containing 0.1 M TEA buffer pH 8, 0.1 mg/mL of L-Glutamate dehydrogenase, 0.1 mg/mL of Urease, 0.4 mg/mL NADPH, and 50 mM L-Arginine.

References

Ikemoto *et al*. (1990) Biochemical Journal 270, 697-703.

Silva *et al*. (2008) Molecular & Biochemical Parasitology 159, 104-111.