

Rat GPT1 / GPT Protein (His Tag)

Catalog Number: 80001-R08B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

AAT1; ALT1; GPT1; 1300007J06Rik; 2310022B03Rik; ALT; Gpt-1; Gpt1

Protein Construction:

A DNA sequence encoding the rat Gpt1 (NP_112301.1) (Met 1-Ser 496) with a C-terminal polyhistidine tag was expressed.

Source: Rat

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met 1

Molecular Mass:

The recombinant rat Gpt1 comprises 506 amino acids with a predicted molecular mass of 55 kDa. It migrates as an approximately 48 kDa band in reduced SDS-PAGE.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.0, 10% glycerol, 0.5mM TCEP

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

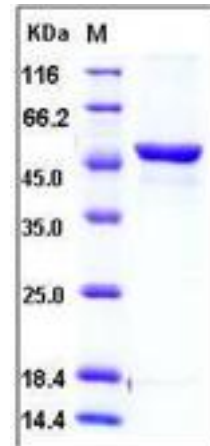
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Alanine aminotransferase (ALT), also known as glutamate pyruvate transaminase (GPT), is a pyridoxal enzyme which belongs to the class-I pyridoxal-phosphate-dependent aminotransferase family, Alanine aminotransferase subfamily. Gpt / Gpt1 / ALT catalyses the reversible interconversion of L-alanine and 2-oxoglutarate to pyruvate and L-glutamate, and plays a key role in the intermediary metabolism of glucose and amino acids. Gpt / Gpt1 / ALT is expressed in Liver, kidney, heart, and skeletal muscles and it expresses at moderate levels in the adipose tissue. As a key enzyme for gluconeogenesis, Gpt is a widely-used serum marker for liver injury. Two ALT isoenzymes have been identified, ALT1 and ALT2 (GPT1 and GPT2), which are encoded by separate genes and share significant sequence homology, but differ in their expression patterns. GPT1/GPT is widely distributed and mainly expressed in intestine, liver, fat tissues, colon, muscle, and heart, in the order of high to low expression level. Serum activity levels of this enzyme are routinely used as a biomarker of liver injury caused by drug toxicity, infection, alcohol, and steatosis.

References

1. Bergmeyer HU, *et al.* (1978) Optimization of methods for aspartate aminotransferase and alanine aminotransferase. Clin Chem. 24(1): 58-73.
2. King MC, *et al.* (1980) Allele increasing susceptibility to human breast cancer may be linked to the glutamate-pyruvate transaminase locus. Science. 208(4442): 406-8.
3. Prati D, *et al.* (2002) Updated definitions of healthy ranges for serum alanine aminotransferase levels. Ann Intern Med. 137(1): 1-10.

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