

GPT (A-16): sc-47017

BACKGROUND

The glutamate pyruvate transaminases GPT (or GPT1) and GPT2, also designated alanine aminotransferases (ALT1 and ALT2), respectively, catalyze the reversible transamination between alanine and 2-oxoglutarate to form pyruvate and Glutamate. Subsequently, they play a key role in the intermediary metabolism of glucose and amino acids. GPT and GPT2 share significant sequence homology, but differ in their expression patterns. GPT exhibits high expression in kidney, liver and heart, whereas GPT2 expression is high in muscle, fat and kidney. GPT is widely used as an index of liver integrity or hepatocellular damage in clinical settings. The gene encoding human GPT maps to chromosome 8q24.3; the gene encoding human GPT2 maps to chromosome 16q12.1.

REFERENCES

1. Sohocki, M.M., et al. 1997. Human glutamate pyruvate transaminase (GPT): localization to 8q24.3, cDNA and genomic sequences and polymorphic sites. *Genomics* 40: 247-252.
2. Yang, R.Z., et al. 2002. cDNA cloning, genomic structure, chromosomal mapping and functional expression of a novel human alanine aminotransferase. *Genomics* 79: 445-450.
3. Matthews, C.C., et al. 2003. GPT protects against glutamate toxicity in hippocampal slices. *Brain Res.* 978: 59-64.
4. Jadhao, S.B., et al. 2004. Murine alanine aminotransferase: cDNA cloning, functional expression and differential gene regulation in mouse fatty liver. *Hepatology* 39: 1297-1302.
5. Lagoa, C.E., et al. 2005. The role of hepatic type 1 plasminogen activator inhibitor (PAI-1) during murine hemorrhagic shock. *Hepatology* 42: 390-399.
6. Nagel, S., et al. 2005. An improved model of isolated hemoperfused porcine livers using pneumatically driven pulsating blood pumps. *Toxicol. Pathol.* 33: 434-440.
7. Schindhelm, R.K., et al. 2005. Liver alanine aminotransferase, Insulin resistance and endothelial dysfunction in normotriglyceridaemic subjects with type 2 diabetes mellitus. *Eur. J. Clin. Invest.* 35: 369-374.

CHROMOSOMAL LOCATION

Genetic locus: Gpt1 (mouse) mapping to 15 D3.

SOURCE

GPT (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GPT of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47017 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GPT (A-16) is recommended for detection of GPT of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GPT siRNA (m): sc-60754; and as shRNA Plasmid control antibody for GPT shRNA Plasmid (m): sc-60754-SH.

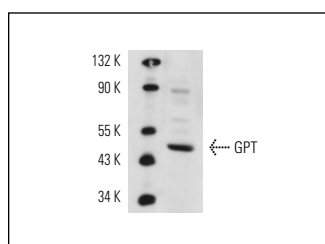
Molecular Weight of GPT: 48 kDa.

Positive Controls: mouse heart extract: sc-2254, NIH/3T3 whole cell lysate: sc-2210 or 3T3-L1 cell lysate: sc-2243.

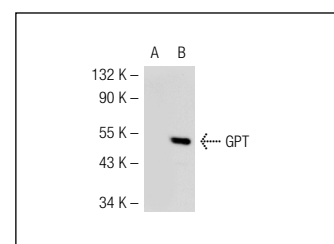
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



GPT (A-16): sc-47017. Western blot analysis of GPT expression in mouse heart tissue extract.



GPT (A-16): sc-47017. Western blot analysis of GPT expression in non-transfected: sc-117752 (A) and mouse GPT transfected: sc-120613 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
Satisfaction
Guaranteed

Try **GPT (E-3): sc-374501** or **GPT (B-1): sc-271370**, our highly recommended monoclonal alternatives to GPT (A-16).