

# GPT2 (C-20): sc-46350

## 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.

## 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. Matthews, C.C., 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. Glutamate-pyruvate transaminase 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. Nagel, S., et al. 2005. An improved model of isolated hemoperfused porcine livers using pneumatically driven pulsating blood pumps. *Toxicol. Pathol.* 33: 434-440.
6. 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.
7. 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.

## CHROMOSOMAL LOCATION

Genetic locus: GPT2 (human) mapping to 16q11.2; Gpt2 (mouse) mapping to 8 C3.

## SOURCE

GPT2 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GPT2 of human 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-46350 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

GPT2 (C-20) is recommended for detection of glutamic pyruvate transaminase 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

GPT2 (C-20) is also recommended for detection of glutamic pyruvate transaminase 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GPT2 siRNA (h): sc-45647, GPT2 siRNA (m): sc-45648, GPT2 shRNA Plasmid (h): sc-45647-SH, GPT2 shRNA Plasmid (m): sc-45648-SH, GPT2 shRNA (h) Lentiviral Particles: sc-45647-V and GPT2 shRNA (m) Lentiviral Particles: sc-45648-V.

Molecular Weight of GPT2: 47 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243, NIH/3T3 whole cell lysate: sc-2210 or Hep G2 cell lysate: sc-2227.

## 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) 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



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Try **GPT2 (G-7): sc-398383**, our highly recommended monoclonal alternative to GPT2 (C-20).