SANTA CRUZ BIOTECHNOLOGY, INC.

GPT (S-16): sc-47024

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The alanine aminotransferases, also designated glutamate pyruvate transaminases GPT (or GPT1) and GPT2 or 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. The genes encoding human GPT and GPT2 map to chromosomes 8q24.3 and 16q12.1, respectively. Also, 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. 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. 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. 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.

SOURCE

GPT (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GPT of rat 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-47024 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GPT (S-16) is recommended for detection of GPT of rat 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).

Molecular Weight of GPT: 48 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **GPT (E-3): sc-374501** or **GPT (G-10): sc-271861**, our highly recommended monoclonal alternatives to GPT (S-16).