SANTA CRUZ BIOTECHNOLOGY, INC.

GPT (E-3): sc-374501

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.

CHROMOSOMAL LOCATION

Genetic locus: GPT (human) mapping to 8q24.3; Gpt (mouse) mapping to 15 D3.

SOURCE

GPT (E-3) is a mouse monoclonal antibody raised against amino acids 351-392 mapping near the C-terminus of GPT of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GPT (E-3) is available conjugated to agarose (sc-374501 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374501 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374501 PE), fluorescein (sc-374501 FITC), Alexa Fluor® 488 (sc-374501 AF488), Alexa Fluor® 546 (sc-374501 AF546), Alexa Fluor® 594 (sc-374501 AF594) or Alexa Fluor® 647 (sc-374501 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374501 AF680) or Alexa Fluor® 790 (sc-374501 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

GPT (E-3) is recommended for detection of GPT of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (h): sc-60753, GPT siRNA (m): sc-60754, GPT shRNA Plasmid (h): sc-60753-SH, GPT shRNA Plasmid (m): sc-60754-SH, GPT shRNA (h) Lentiviral Particles: sc-60753-V and GPT shRNA (m) Lentiviral Particles: sc-60754-V.

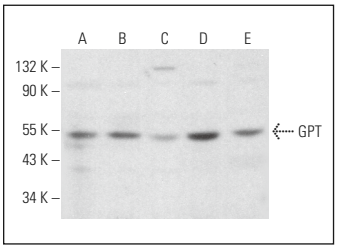
Molecular Weight of GPT: 48 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, GPT (m): 293T Lysate: sc-120612 or NIH/3T3 whole cell lysate: sc-2210.

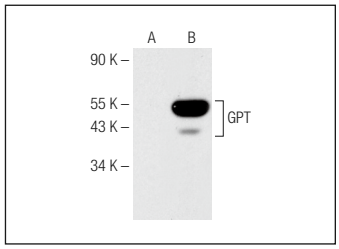
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GPT (E-3): sc-374501. Western blot analysis of GPT expression in NIH/3T3 (**A**), c4 (**B**), A2058 (**C**), Hep G2 (**D**) and Caco-2 (**E**) whole cell lysates.



GPT (E-3): sc-374501. Western blot analysis of GPT expression in non-transfected: sc-117752 (**A**) and mouse GPT transfected: sc-120612 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mateus, I., et al. 2018. Glucose and glutamine handling in the Sertoli cells of transgenic rats overexpressing regucalcin: plasticity towards lactate production. Sci. Rep. 8: 10321.
2. Rossiter, N.J., et al. 2021. CRISPR screens in physiologic medium reveal conditionally essential genes in human cells. Cell Metab. 33: 1248-1263.e9.
3. Wang, J.Y., et al. 2024. The selective sponging of miRNAs by OIP5-AS1 regulates metabolic reprogramming of pyruvate in adenoma-carcinoma transition of human colorectal cancer. BMC Cancer 24: 611.

RESEARCH USE

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

PROTOCOLS

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