SANTA CRUZ BIOTECHNOLOGY, INC.

GPT2 (G-7): sc-398383

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

SOURCE

GPT2 (G-7) is a mouse monoclonal antibody raised against amino acids 378-417 mapping near the C-terminus of GPT2 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.

GPT2 (G-7) is available conjugated to agarose (sc-398383 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398383 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398383 PE), fluorescein (sc-398383 FITC), Alexa Fluor® 488 (sc-398383 AF488), Alexa Fluor® 546 (sc-398383 AF546), Alexa Fluor® 594 (sc-398383 AF594) or Alexa Fluor® 647 (sc-398383 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398383 AF680) or Alexa Fluor® 790 (sc-398383 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

GPT2 (G-7) is recommended for detection of GPT2 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 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.

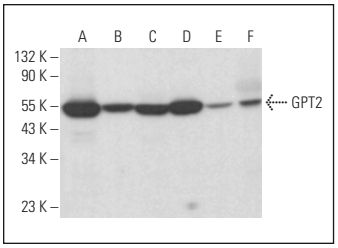
Molecular Weight of GPT2: 47 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, A-431 whole cell lysate: sc-2201 or 3T3-L1 cell lysate: sc-2243.

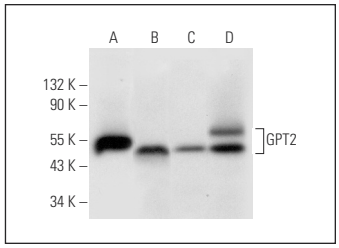
RECOMMENDED SUPPORT REAGENTS

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



GPT2 (G-7): sc-398383. Western blot analysis of GPT2 expression in 3T3-L1 (**A**), HeLa (**B**), c4 (**C**), F9 (**D**) and P19 (**E**) whole cell lysates and human adipose tissue tissue extract (**F**).



GPT2 (G-7): sc-398383. Western blot analysis of GPT2 expression in Hep G2 (**A**), A-431 (**B**) and 3T3-L1 (**C**) whole cell lysates and human skeletal muscle tissue extract (**D**).

SELECT PRODUCT CITATIONS

1. Tan, H.W.S., et al. 2017. Glutamine metabolism regulates autophagy-dependent mTORC1 reactivation during amino acid starvation. Nat. Commun. 8: 338.
2. Pathria, G., et al. 2019. Translational reprogramming marks adaptation to asparagine restriction in cancer. Nat. Cell Biol. 21: 1590-1603.
3. Rossiter, N.J., et al. 2021. CRISPR screens in physiologic medium reveal conditionally essential genes in human cells. Cell Metab. 33: 1248-1263.e9.
4. Wiese, E.K., et al. 2021. Enzymatic activation of pyruvate kinase increases cytosolic oxaloacetate to inhibit the Warburg effect. Nat. Metab. 3: 954-968.
5. Weng, H., et al. 2022. The m^6A reader IGF2BP2 regulates glutamine metabolism and represents a therapeutic target in acute myeloid leukemia. Cancer Cell. E-published.

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 for detailed protocols and support products.