

G6PT (7B9): sc-293321

BACKGROUND

G6PT (glucose-6-phosphate translocase), also known as G6PT1, G6PT2, G6PT3, GSD1b, GSD1c, GSD1d, TRG19 or SLC37A4 (solute carrier family 37, member 4), is a 429 amino acid endoplasmic reticulum multi-pass membrane protein belonging to the SLC37A family (also known as SLC37A sugar transporter family) of the major facilitator superfamily. Highly expressed in liver and kidney, G6PT is involved in the transport of glucose-6-phosphate (G6P) from the cytoplasm to the lumen of the endoplasmic reticulum. G6PT plays a critical role in glycogenolysis and gluconeogenesis, which are metabolic pathways involved in the regulation of blood glucose levels. G6PT also plays a role in ATP-mediated calcium sequestration in the lumen of the endoplasmic reticulum. Mutation in the gene encoding G6PT causes glycogen storage disease type 1B (GSD1B), a disorder characterized by impairment of terminal steps of glycogenolysis and gluconeogenesis.

REFERENCES

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- Veiga-da-Cunha, M., et al. 1998. A gene on chromosome 11q23 coding for a putative glucose-6-phosphate translocase is mutated in glycogen-storage disease types Ib and Ic. *Am. J. Hum. Genet.* 63: 976-983.
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- Chen, S.Y., et al. 2008. The glucose-6-phosphate transporter is a phosphate-linked antiporter deficient in glycogen storage disease type Ib and Ic. *FASEB J.* 22: 2206-2213.
- Chen, S.Y., et al. 2008. Functional analysis of mutations in the glucose-6-phosphate transporter that cause glycogen storage disease type Ib. *Mol. Genet. Metab.* 95: 220-223.
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CHROMOSOMAL LOCATION

Genetic locus: SLC37A4 (human) mapping to 11q23.3.

SOURCE

G6PT (7B9) is a mouse monoclonal antibody raised against amino acids 28-76 of G6PT of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

G6PT (7B9) is recommended for detection of G6PT of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for G6PT siRNA (h): sc-97011, G6PT shRNA Plasmid (h): sc-97011-SH and G6PT shRNA (h) Lentiviral Particles: sc-97011-V.

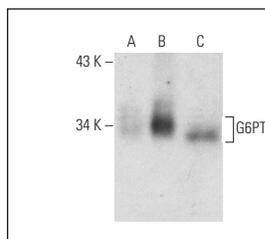
Molecular Weight of G6PT: 46 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or G6PT (h): 293T Lysate: sc-116933.

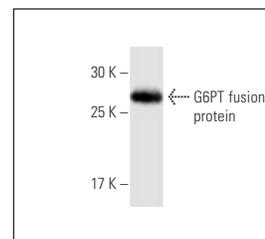
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



G6PT (7B9): sc-293321. Western blot analysis of G6PT expression in non-transfected 293T: sc-117752 (A), human G6PT transfected 293T: sc-116933 (B) and Hep G2 (C) whole cell lysates.



G6PT (7B9): sc-293321. Western blot analysis of human recombinant G6PT fusion protein.

SELECT PRODUCT CITATIONS

- Zhang, X., et al. 2021. Arsenic trioxide induces differentiation of cancer stem cells in hepatocellular carcinoma through inhibition of LIF/JAK1/Stat3 and NF κ B signaling pathways synergistically. *Clin. Transl. Med.* 11: e335.

STORAGE

Store at 4 $^{\circ}$ 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.