SANTA CRUZ BIOTECHNOLOGY, INC.

# G6PT (E-13): sc-135479

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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


1. Gerin, I., et al. 1997. Sequence of a putative glucose 6-phosphate translocase, mutated in glycogen storage disease type Ib. FEBS Lett. 419: 235-238.
2. 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.
3. Ihara, K., et al. 1998. Genomic structure of the human glucose 6-phosphate translocase gene and novel mutations in the gene of a Japanese patient with glycogen storage disease type Ib. Hum. Genet. 103: 493-496.
4. Galli, L., et al. 1999. Mutations in the glucose-6-phosphate transporter (G6PT) gene in patients with glycogen storage diseases type 1b and 1c. FEBS Lett. 459: 255-258.
5. Hiraiwa, H., et al. 1999. Inactivation of the glucose 6-phosphate transporter causes glycogen storage disease type 1b. J. Biol. Chem. 274: 5532-5536.
6. Csala, M., et al. 2007. Transport and transporters in the endoplasmic reticulum. Biochim. Biophys. Acta 1768: 1325-1341.
7. 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.
8. 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.


## CHROMOSOMAL LOCATION

Genetic locus: SLC37A4 (human) mapping to 11q23.3; Slc37a4 (mouse) mapping to 9 A5.2.

## SOURCE

G6PT (E-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of G6PT of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-135479 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

G6PT (E-13) is recommended for detection of G6PT isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

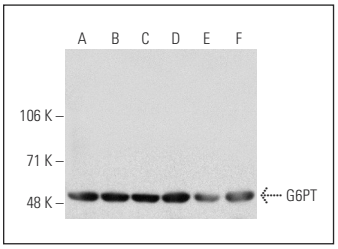
G6PT (E-13) is also recommended for detection of G6PT isoforms 1 and 2 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for G6PT siRNA (h): sc-97011, G6PT siRNA (m): sc-145296, G6PT shRNA Plasmid (h): sc-97011-SH, G6PT shRNA Plasmid (m): sc-145296-SH, G6PT shRNA (h) Lentiviral Particles: sc-97011-V and G6PT shRNA (m) Lentiviral Particles: sc-145296-V.

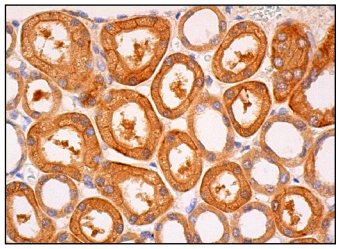
Molecular Weight of G6PT: 46 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

## DATA




G6PT (E-13): sc-135479. Western blot analysis of G6PT expression in Hep G2 (**A**), HeLa (**B**), KNRK (**C**) and Caki-1 (**D**) whole cell lysates and rat liver (**E**) and mouse kidney (**F**) tissue extracts.



G6PT (E-13): sc-135479. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in tubules.

## RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **G6PT (7B9): sc-293321**, our highly recommended monoclonal alternative to G6PT (E-13).