

G6Pase- α (N-19): sc-27196

BACKGROUND

Glucose-6-phosphatase (G6Pase), is a multicomponent enzyme system that hydrolyzes glucose-6-phosphate (G6P) in the final step of gluconeogenesis and gluconeolysis. G6Pase localizes to the endoplasmic reticulum, and while liver, kidney, and intestine are the only tissues that express the first identified isoform, G6Pase- α , a second form, designated G6Pase- β , contributes to blood glucose homeostasis in a wider range of tissues. Glucocorticoids stimulate the expression of the G6Pase gene while Insulin rapidly inhibits expression via the thymine-rich Insulin response element located within the promoter of the G6Pase gene. Due to its necessary involvement in normal glucose metabolism, G6Pase plays an integral role in diabetes and glycogen storage diseases (GSDs). The presence of different isoforms may explain the ability of some individuals with GSDs to still produce glucose, despite their lack of functional G6Pase- α .

REFERENCES

- Goh, B.H., et al. 2003. Evidence for the expression of both the hydrolase and translocase components of hepatic glucose-6-phosphatase in murine pancreatic islets. *Biochem. Biophys. Res. Commun.* 307: 935-941.
- Guionie, O., et al. 2003. Identification and characterization of a new human glucose-6-phosphatase isoform. *FEBS Lett.* 551: 159-164.
- Shieh, J.J., et al. 2003. A glucose-6-phosphate hydrolase, widely expressed outside the liver, can explain age-dependent resolution of hypoglycemia in glycogen storage disease type 1 α . *J. Biol. Chem.* 278: 47098-47103.
- Barthel, A., et al. 2003. Novel aspects in the mechanisms of steroid diabetes and the regulation of hepatic glucose production by Insulin and steroids. *Med. Klin.* 98: 283-286.
- Ghosh, A., et al. 2005. Brain contains a functional glucose-6-phosphatase complex capable of endogenous glucose production. *J. Biol. Chem.* 280: 11114-11119.

CHROMOSOMAL LOCATION

Genetic locus: G6PC (human) mapping to 17q21.31; G6pc (mouse) mapping to 11 D.

SOURCE

G6Pase- α (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of G6Pase- α of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-27196 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

G6Pase- α (N-19) is recommended for detection of G6Pase- α of mouse, rat and 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)], 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).

G6Pase- α (N-19) is also recommended for detection of G6Pase- α in additional species, including equine, canine and bovine.

Suitable for use as control antibody for G6Pase- α siRNA (h): sc-105380, G6Pase- α siRNA (m): sc-145294, G6Pase- α shRNA Plasmid (h): sc-105380-SH, G6Pase- α shRNA Plasmid (m): sc-145294-SH, G6Pase- α shRNA (h) Lentiviral Particles: sc-105380-V and G6Pase- α shRNA (m) Lentiviral Particles: sc-145294-V.

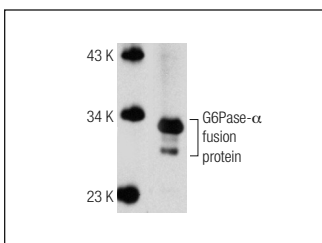
Molecular Weight of G6Pase- α : 36 kDa.

Positive Controls: Rat liver extract: sc-2395 or rat kidney extract: sc-2394.

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.

DATA



G6Pase- α (N-19): sc-27196. Western blot analysis of human recombinant G6Pase- α fusion protein.

RESEARCH USE

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

MONOS
Satisfaction
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Try **G6Pase- α (H-4): sc-398155**, our highly recommended monoclonal alternative to G6Pase- α (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **G6Pase- α (H-4): sc-398155**.