SANTA CRUZ BIOTECHNOLOGY, INC.

G6Pase-α (H-4): sc-398155

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

G6Pase-α (H-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 80-106 near the N-terminus of G6Pase-α of rat origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

G6Pase-α (H-4) is available conjugated to agarose (sc-398155 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398155 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-398155 PE), fluorescein (sc-398155 FITC), Alexa Fluor® 488 (sc-398155 AF488) or Alexa Fluor® 647 (sc-398155 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-398155 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

G6Pase-α (H-4) is recommended for detection of G6Pase-α 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 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.

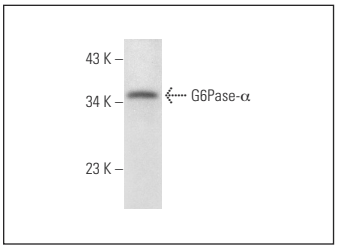
Molecular Weight of G6Pase-α: 36 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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 L-Agarose: sc-2336 (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



G6Pase-α (H-4): sc-398155. Western blot analysis of G6Pase-α expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Feng, B., et al. 2017. Endoplasmic reticulum stress inducer tunicamycin alters hepatic energy homeostasis in mice. Int. J. Mol. Sci. 18: 1710.
2. Muñoz, V.R., et al. 2017. Physical exercise reduces pyruvate carboxylase (PCB) and contributes to hyperglycemia reduction in obese mice. J. Physiol. Sci. E-published.
3. Bhakta, H.K., et al. 2017. Oligonol promotes glucose uptake by modulating the Insulin signaling pathway in Insulin-resistant HepG2 cells via inhibiting protein tyrosine phosphatase 1B. Arch. Pharm. Res. 40: 1314-1327.
4. Perry, R.J., et al. 2018. Mechanisms by which a very-low-calorie diet reverses hyperglycemia in a rat model of type 2 diabetes. Cell Metab. 27: 210-217.

STORAGE

Store at 4° 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.