

PGM 2 (F-12): sc-376718

BACKGROUND

Phosphoglucomutase (PGM), which belongs to the hexose-phosphate mutase family, plays an essential role in glycogen catabolism (glycogenolysis) as well as in the process of glycogen synthesis (glycogenesis). During glycogenolysis, PGM converts glucose-1-phosphate (Glc-1-P) to glucose-6-phosphate (Glc-6-P), thus promoting glycolysis and the pentose phosphate pathway. During glycogenesis, PGM functions in the opposite manner, converting glucose-6-phosphate into glucose-1-phosphate, to facilitate glycogen synthesis. PGM has five structural loci: PGM 1, PGM 2, PGM 3, PGM 4 and Aciculin. These five genetic forms of PGM differ in amino acid sequences but catalyze the same reactions, therefore indicating that they are isozymes. PGM 2, a 612 amino acid protein, is expressed in lung, spleen and thymus, and localizes to the cytoplasm. It has been suggested that PGM 2 may play a role in congenital immunodeficiencies.

REFERENCES

1. Takahashi, N., et al. 1982. A phylogeny for the principal alleles of the human phosphoglucomutase-1 locus. *Proc. Natl. Acad. Sci. USA* 79: 6636-6640.
2. Takahashi, N., et al. 1993. Intragenic recombination at the human phosphoglucomutase 1 locus: predictions fulfilled. *Proc. Natl. Acad. Sci. USA* 90: 10725-10729.
3. Yip, S.P., et al. 1999. Mapping recombination hotspots in human phosphoglucomutase (PGM1). *Hum. Mol. Genet.* 8: 1699-1706.

CHROMOSOMAL LOCATION

Genetic locus: PGM2 (human) mapping to 4p14; Pgm2 (mouse) mapping to 4 C6.

SOURCE

PGM 2 (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 503-533 near the C-terminus of PGM 2 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.

PGM 2 (F-12) is available conjugated to agarose (sc-376718 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376718 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376718 PE), fluorescein (sc-376718 FITC), Alexa Fluor® 488 (sc-376718 AF488), Alexa Fluor® 546 (sc-376718 AF546), Alexa Fluor® 594 (sc-376718 AF594) or Alexa Fluor® 647 (sc-376718 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376718 AF680) or Alexa Fluor® 790 (sc-376718 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376718 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

PGM 2 (F-12) is recommended for detection of PGM 2 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 PGM 2 siRNA (h): sc-89239, PGM 2 siRNA (m): sc-108051, PGM 2 shRNA Plasmid (h): sc-89239-SH, PGM 2 shRNA Plasmid (m): sc-108051-SH, PGM 2 shRNA (h) Lentiviral Particles: sc-89239-V and PGM 2 shRNA (m) Lentiviral Particles: sc-108051-V.

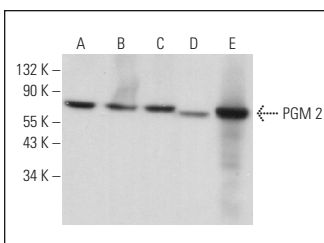
Molecular Weight of PGM 2: 68 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 nuclear extract: sc-2130 or HEL 92.1.7 cell lysate: sc-2270.

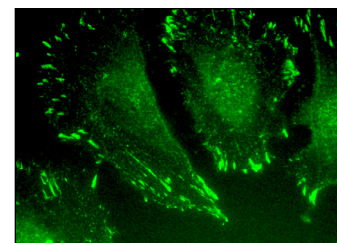
RECOMMENDED SUPPORT REAGENTS

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



PGM 2 (F-12): sc-376718. Western blot analysis of PGM 2 expression in K-562 nuclear extract (A), HEL 92.1.7 (B), Jurkat (C) and NIH/3T3 (D) whole cell lysates and mouse liver tissue extract (E).



PGM 2 (F-12): sc-376718. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Lambrecht, C., et al. 2020. Differential proteomic analysis of hepatocellular carcinomas from Ppp2r5d knockout mice and normal (knockout) livers. *Cancer Genomics Proteomics* 17: 669-685.

STORAGE

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

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