

# PGM 2 (F-13): sc-162009

## BACKGROUND

Phosphoglucosmutase (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. 1983. A phylogeny for the principal alleles of the human phosphoglucosmutase 1 locus. *Proc. Natl. Acad. Sci. USA* 79: 6636-6640.
2. Takahashi, N., et al. 1993. Intragenic recombination at the human phosphoglucosmutase 1 locus: predictions fulfilled. *Proc. Natl. Acad. Sci. USA* 90: 10725-10729.
3. Yip, S.P., et al. 2000. Mapping recombination hotspots in human phosphoglucosmutase (PGM 1). *Hum. Mol. Genet.* 8: 1699-1706.
4. Bro, C., et al. 2005. Improvement of galactose uptake in *Saccharomyces cerevisiae* through overexpression of phosphoglucosmutase: example of transcript analysis as a tool in inverse metabolic engineering. *Appl. Environ. Microbiol.* 71: 6465-6472.
5. Buchanan, J.T., et al. 2005. *Streptococcus iniae* phosphoglucosmutase is a virulence factor and a target for vaccine development. *Infect. Immun.* 73: 6935-6944.

## CHROMOSOMAL LOCATION

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

## SOURCE

PGM 2 (F-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PGM 2 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-162009 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PGM 2 (F-13) is recommended for detection of PGM 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other PGM family members.

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.

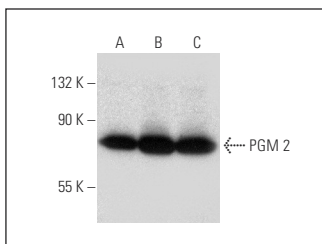
Molecular Weight of PGM 2: 68 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or U-937 cell lysate: sc-2239.

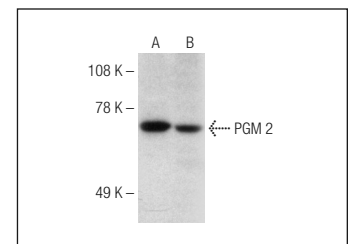
## RECOMMENDED SECONDARY REAGENTS

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



PGM 2 (F-13): sc-162009. Western blot analysis of PGM 2 expression in HeLa (A), HEL 92.1.7 (B) and K-562 (C) nuclear extracts.



PGM 2 (F-13): sc-162009. Western blot analysis of PGM 2 expression in U-937 (A) and Jurkat (B) whole cell lysates.

## RESEARCH USE

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


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Try **PGM 2 (F-12): sc-376718**, our highly recommended monoclonal alternative to PGM 2 (F-13).