# Anti-PGM1 Antibody [JE65-06]

## HA721110

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|---|---|
| **Product Type:** | Recombinant Rabbit monoclonal IgG, primary antibodies |
| **Species reactivity:** | Human, Mouse, Rat, Monkey |
| **Applications:** | WB, IF-Cell, FC |
| **Molecular Wt:** | Predicted band size: 61 kDa |
| **Clone number:** | JE65-06 |

**Description:** Phosphoglucomutase-1 is an enzyme that in humans is encoded by the PGM1 gene. The protein encoded by this gene is an isozyme of phosphoglucomutase (PGM) and belongs to the phosphohexose mutase family. There are several PGM isozymes, which are encoded by different genes and catalyze the transfer of phosphate between the 1 and 6 positions of glucose. In most cell types, this PGM isozyme is predominant, representing about 90% of total PGM activity. In red blood cells, PGM2 is a major isozyme. This gene is highly polymorphic. Mutations in this gene cause CDG syndrome type 1t (CDG1T, formerly known as glycogen storage disease type XIV). Alternatively spliced transcript variants encoding different isoforms have been identified in this gene. Phosphoglucomutase 1 (PGM1) deficiency is an inherited metabolic disorder in humans (CDG syndrome type 1t, CDG1T). Affected patients show multiple disease phenotypes, including dilated cardiomyopathy, exercise intolerance, and hepatopathy, reflecting the central role of the enzyme in glucose metabolism.

**Immunogen:** Synthetic peptide within human PGM1 aa 513-562/562.

**Positive control:** A431 cell lysate, HeLa cell lysate, HepG2 cell lysate, NIH/3T3 cell lysate, COS-1 cell lysate, Mouse spleen tissue lysate, 293T cell lysate, Hela cell lysate, RAW264.7 cell lysate, PC-12 cell lysate, Rat spleen tissue lysate, A431, PC-12.

**Subcellular location:** Cytoplasm.

**Database links:** SwissProt: P36871 Human | Q9D0F9 Mouse | P38652 Rat

**Recommended Dilutions:**

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| **WB** | 1:1,000-1:5,000 |
| **IF-Cell** | 1:100 |
| **FC** | 1:1,000 |

**Storage Buffer:** 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

**Purity:** Protein A affinity purified.

## Images

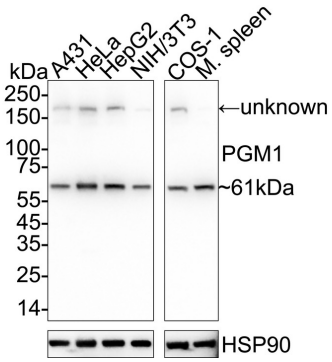


**Fig1:** Western blot analysis of PGM1 on different lysates with Rabbit anti-PGM1 antibody (HA721110) at 1/5,000 dilution.

Lane 1: A431 cell lysate (20 µg/Lane)
Lane 2: HeLa cell lysate (20 µg/Lane)
Lane 3: HepG2 cell lysate (20 µg/Lane)
Lane 4: NIH/3T3 cell lysate (20 µg/Lane)
Lane 5: COS-1 cell lysate (20 µg/Lane)
Lane 6: Mouse spleen tissue lysate (30 µg/Lane)

Predicted band size: 61 kDa
Observed band size: 61 kDa

Exposure time: 6 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721110) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

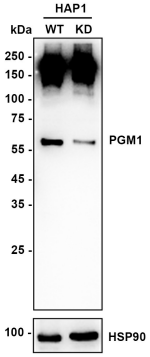


**Fig2:** Western blot analysis of PGM1 on different lysates with Rabbit anti-PGM1 antibody (HA721110) at 1/1,000 dilution.

Lane 1: HAP1-parental cell lysate
Lane 2: HAP1-PGM1 KD cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 61 kDa
Observed band size: 61 kDa

Exposure time: 20 seconds; ECL: K1802;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721110) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

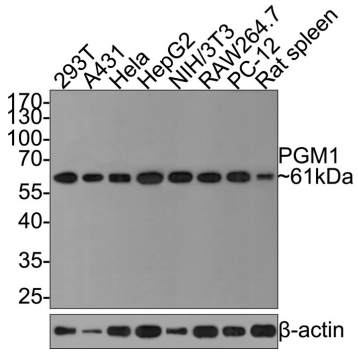


**Fig3:** Western blot analysis of PGM1 on different lysates with Rabbit anti-PGM1 antibody (HA721110) at 1/1,000 dilution.

Lane 1: 293T cell lysate, 10 µg/Lane
Lane 2: A431 cell lysate, 10 µg/Lane
Lane 3: Hela cell lysate, 10 µg/Lane
Lane 4: HepG2 cell lysate, 10 µg/Lane
Lane 5: NIH/3T3 cell lysate, 10 µg/Lane
Lane 6: RAW264.7 cell lysate, 10 µg/Lane
Lane 7: PC-12 cell lysate, 10 µg/Lane
Lane 8: Rat spleen tissue lysate, 20 µg/Lane

Predicted band size: 61 kDa
Observed band size: 61 kDa

Exposure time: 2 minutes;

10% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721110) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

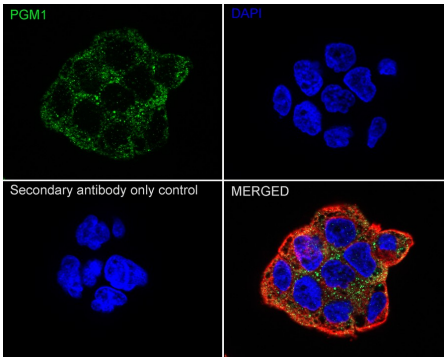


**Fig4:** Immunocytochemistry analysis of A431 cells labeling PGM1 with Rabbit anti-PGM1 antibody (HA721110) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-PGM1 antibody (HA721110) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

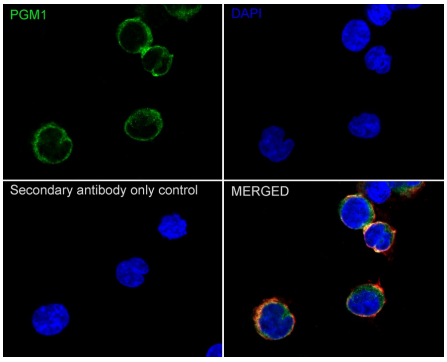


**Fig5:** Immunocytochemistry analysis of PC-12 cells labeling PGM1 with Rabbit anti-PGM1 antibody (HA721110) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-PGM1 antibody (HA721110) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

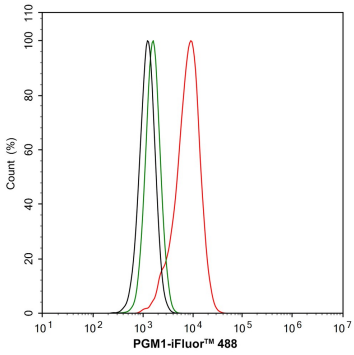


**Fig6:** Flow cytometric analysis of A431 cells labeling PGM1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA721110, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

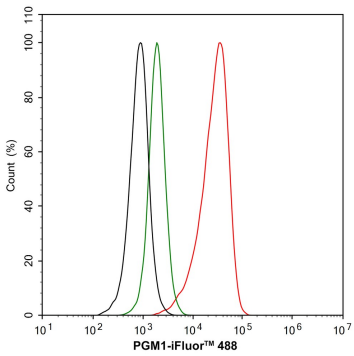


**Fig7:** Flow cytometric analysis of PC-12 cells labeling PGM1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA721110, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

## Background References

1. Altassan R. et. al. International consensus guidelines for phosphoglucomutase 1 deficiency (PGM1-CDG): Diagnosis, follow-up, and management. J Inherit Metab Dis. 2021 Jan
2. Radenkovic S. et. al. The Metabolic Map into the Pathomechanism and Treatment of PGM1-CDG. Am J Hum Genet. 2019 May