abcam

ab188869

Anti-PGM1 antibody [EPR15240]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR15240
Purification technique	Affinity purification Protein A
Concentration	1.841 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30 - 1/50
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/360
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information PGM1

Function	Catalyzes the reversible isomerization of alpha-D-glucose 1-phosphate to alpha-D-glucose 6-phosphate (PubMed:15378030, PubMed:25288802). The mechanism proceeds via the intermediate compound alpha-D-glucose 1,6-bisphosphate (Probable) (PubMed:25288802). This enzyme participates in both the breakdown and synthesis of glucose (PubMed:17924679, PubMed:25288802).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The Protein PGM1 also known as phosphoglucomutase-1 plays a significant mechanical role in cellular glucose metabolism. It catalyzes the interconversion of glucose-1-phosphate and glucose-6-phosphate a critical step in the glycolysis and gluconeogenesis pathways. The PGM1 protein has a molecular mass of approximately 61 kDa. Its expression occurs in various tissues with high levels in muscle and liver tissues which are key sites for energy storage and utilization.
Biological function summary	PGM1 contributes significantly to both energy homeostasis and carbohydrate metabolism. It functions as part of a dynamic complex involving other enzymes that manage intracellular energy balance. PGM1 supports glycogen synthesis and breakdown by regulating the availability of glucose-1-phosphate. This dual role makes PGM1 an important protein for maintaining normal metabolic function. Its activity impacts cellular energy levels which is vital for muscle contraction and overall energy distribution in tissues.
Pathways	PGM1 is critically involved in carbohydrate metabolic pathways specifically glycolysis and gluconeogenesis. In glycolysis it participates in converting glucose for energy production. In gluconeogenesis it assists in the generation of glucose from non-carbohydrate substrates. PGM1 interacts closely with other enzymes in

	these pathways such as glucose-6-phosphate dehydrogenase ensuring efficient energy regulation and metabolic flow within the cell.
Associated diseases and disorders	PGM1 is associated with glycogen storage disease type XIV which is a condition causing improper glycogen metabolism. Mutations in the PGM1 gene disrupt its enzymatic function leading to symptoms like muscle pain and weakness. Additionally PGM1 defects can impact another protein phosphoglucomutase-3 (PGM3) which shares pathway similarities and potentially affects the synthesis of other phosphorylated sugars related to immune function. These connections highlight the importance of functional PGM1 in maintaining normal physiological and disease-free states.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

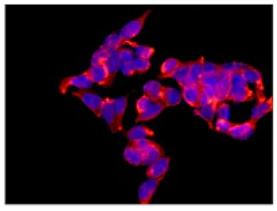
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

6 product images

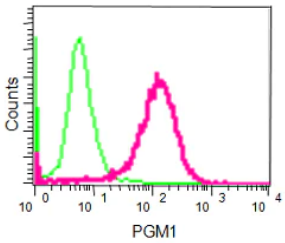


Immunocytochemistry/ Immunofluorescence - Anti-PGM1 antibody [EPR15240] (ab188869)

PGM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PGM1 antibody

Immunofluorescent analysis of 293T cells (4% Paraformaldehyde-fixed) labeling PGM1 with ab188869 at 1/250 dilution followed by Goat anti rabbit IgG (Alexa Fluor® 555) secondary at 1/200

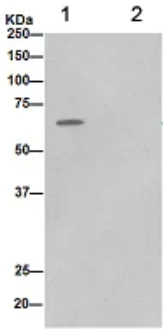
dilution and counter-stained with DAPI (blue).



Flow Cytometry (Intracellular) - Anti-PGM1 antibody [EPR15240] (ab188869)

PGM1 Flow Cytometry (Intracellular) staining using rabbit Anti-PGM1 antibody

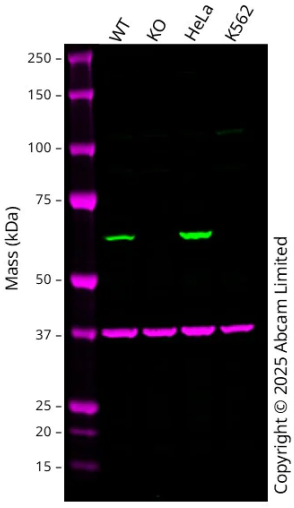
Intracellular flow cytometric analysis of 293T cells (paraformaldehyde-fixed, 2%) labeling PGM1 with ab188869 at 1/360 dilution (red) or a rabbit IgG (negative) (green), followed by Goat anti rabbit IgG (FITC) secondary at 1/150 dilution.



Immunoprecipitation - Anti-PGM1 antibody [EPR15240] (ab188869)

Western blot analysis of immunoprecipitation pellet from Human fetal liver lysate immunoprecipitated using ab188869 at 1/50 dilution.
Secondary: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 dilution.
All lanes:
Immunoprecipitation - Anti-PGM1 antibody [EPR15240] (ab188869)

Predicted band size: 61 kDa



Western blot - Anti-PGM1 antibody [EPR15240] (ab188869)

PGM1 Western blot staining using rabbit Anti-PGM1 antibody

Western blot: Anti-PGM1 antibody [EPR15240] ab188869 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 68 kDa in Wild-type A549 cell lysates with no signal observed at this size in PGM1 knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-PGM1 antibody [EPR15240] (ab188869) at 1/1000 dilution

Lane 1:
Wild-type A549 at 20 µg

Lane 2:
PGM1 knockout A549 at 20 µg

Lane 3:
HeLa at 20 µg

Lane 4:
K562 at 20 µg

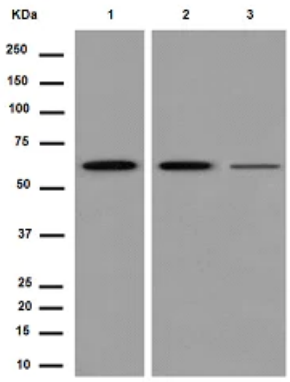
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 68 kDa, 37 kDa



Western blot - Anti-PGM1 antibody [EPR15240] (ab188869)

All lanes:
Western blot - Anti-PGM1 antibody [EPR15240] (ab188869) at 1/1000 dilution

Lane 1:
Human fetal heart lysate at 10 µg

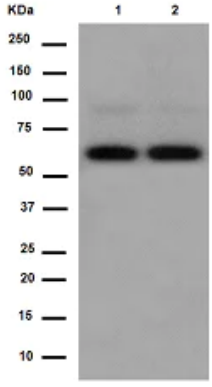
Lane 2:
Human fetal liver lysate at 10 µg

Lane 3:
293T lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/500 dilution

Predicted band size: 61 kDa



Western blot - Anti-PGM1 antibody [EPR15240] (ab188869)

All lanes:
Western blot - Anti-PGM1 antibody [EPR15240] (ab188869) at 1/1000 dilution

Lane 1:
HepG2 cell lysate at 20 µg

Lane 2:
Jurkat cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution

Predicted band size: 61 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.