abcam

ab248342

Anti-PGAM1 antibody [EPR8042] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR8042
Purification technique	Affinity purification
Dissociation constant	1.5 x 10^{-11} M
Concentration	1.036 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat

Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PGAM1

Function	Catalyzes the interconversion of 2-phosphoglycerate and 3-phosphoglycerate, a crucial step in glycolysis, by using 2,3-bisphosphoglycerate (PubMed:23653202). Also catalyzes the interconversion of (2R)-2,3-bisphosphoglycerate and (2R)-3-phospho-glyceroyl phosphate (PubMed:23653202).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248342 is the carrier-free version of ab129191.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Phosphoglycerate mutase 1 (PGAM1) also known as PGAM-M or brain PGAM is an enzyme with a molecular weight of approximately 29 kDa. PGAM1 catalyzes the conversion of 3-phosphoglycerate to 2-phosphoglycerate in the glycolytic pathway. This enzyme is expressed in a wide range of tissues with significant levels found in brain and muscle cells. It plays an important role in energy metabolism by facilitating the intermediate steps of glycolysis.
Biological function summary	PGAM1 acts within the glycolysis and gluconeogenesis processes interacting with other metabolic enzymes to maintain cellular energy balance. It functions as a part of the phosphoglycerate mutase enzyme complex. The activity of PGAM1 is important for optimal glycolytic flux directly linking it to energy production and regulation within the cell. By maintaining the concentrations of glycolytic intermediates PGAM1 supports various cellular processes that depend on energy generated through glycolysis.
Pathways	The activity of PGAM1 integrates glycolysis with other vital metabolic processes in the cell. One key pathway involving PGAM1 is the glycolytic pathway where it collaborates with the enzymes phosphoglycerate kinase and enolase to efficiently drive the conversion of glucose to pyruvate. Additionally PGAM1 is linked to the pentose phosphate pathway where it indirectly influences nucleotide biosynthesis and antioxidant responses by affecting the flux of metabolites into the pathway.
Associated diseases and disorders	PGAM1's involvement in energy metabolism connects it to various cancer types. Many cancer cells display elevated levels of PGAM1 which can promote enhanced aerobic glycolysis also known as the Warburg effect. This shift in metabolism is associated with increased cancer cell proliferation and survival. Furthermore PGAM1's interaction with other proteins like p53 a tumor suppressor highlights its potential role in tumorigenesis where dysregulation of these interactions can contribute to cancer progression.

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

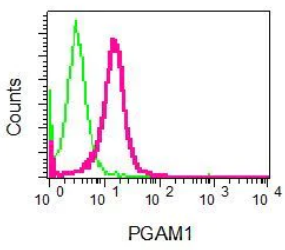
We do not recommend this combination. It is not covered by our product promise.

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.

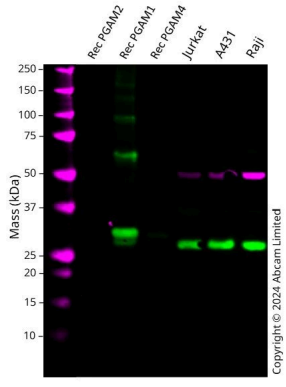
4 product images



Flow Cytometry (Intracellular) - Anti-PGAM1 antibody [EPR8042] - BSA and Azide free (ab248342)

PGAM1 Flow Cytometry (Intracellular) staining using rabbit Anti-PGAM1 antibody

This data was developed using ab129191, the same antibody clone in a different buffer formulation.
ab129191 at 1/100 dilution staining PGAM1 in permeabilized Raji cells by intracellular flow cytometry or a rabbit IgG negative control (green).



Western blot - Anti-PGAM1 antibody [EPR8042] - BSA and Azide free (ab248342)

PGAM1 Western blot staining using rabbit Anti-PGAM1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab129191).

Western blot: Anti-PGAM antibody [EPR8042] (ab129191) staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in magenta. In Western blot, ab129191 was shown to bind specifically to PGAM. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % 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 IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-PGAM1 antibody [EPR8042] (ab129191) at 1/1000 dilution

Lane 1:
Recombinant human PGAM2 protein (Active) ab219276 cell lysate at 0.1 µg

Lane 2:
Recombinant human PGAM1 protein (Active) ab289791 cell lysate at 0.1 µg

Lane 3:
PGAM4 Human Recombinant Protein cell lysate at 0.1 µg

Lane 4:
Jurkat cell lysate at 20 µg

Lane 5:
A431 cell lysate at 20 µg

Lane 6:
Raji cell lysate at 20 µg

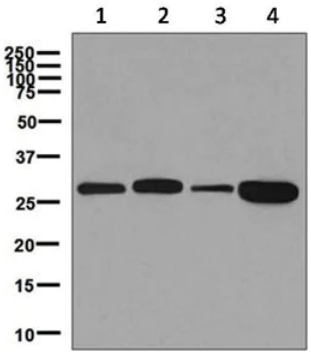
Secondary

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

Performed under reducing conditions.

Predicted band size: 29 kDa

Observed band size: 29 kDa



Western blot - Anti-PGAM1 antibody [EPR8042] - BSA and Azide free (ab248342)

This data was developed using ab129191, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-PGAM1 antibody [EPR8042] (ab129191) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
Human fetal muscle tissue lysate at 10 µg

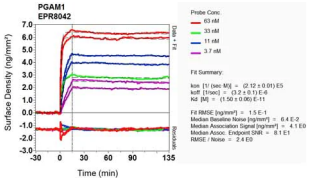
Lane 3:
A431 cell lysate at 10 µg

Lane 4:
Raji cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 29 kDa



OI-RD Scanning - Anti-PGAM1 antibody [EPR8042] - BSA and Azide free (ab248342)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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