abcam

ab204131

Anti-PFKM + PFKP antibody [EPR17314]

Recombinant | RabMAb

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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR17314
Purification technique	Affinity purification Protein A
Concentration	1.493 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/80
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information PFKP

Function	Catalyzes the phosphorylation of D-fructose 6-phosphate to fructose 1,6-bisphosphate by ATP, the first committing step of glycolysis.

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	PFKM and PFKP are key enzymes involved in glycolysis. These targets are commonly referred to as phosphofructokinase muscle (PFKM) and phosphofructokinase platelet (PFKP). PFKM has a molecular mass of approximately 85 kDa while PFKP is slightly larger at around 84 kDa. PFKM is expressed mainly in muscle tissues whereas PFKP is found in platelets and other tissues like the brain. These enzymes catalyze the conversion of fructose-6-phosphate to fructose-16-bisphosphate using ATP an important regulatory step in glycolysis.
Biological function summary	PFKM and PFKP play significant roles in energy metabolism. They are part of the phosphofructokinase enzyme complex which regulates glycolytic flux. PFKM is important for muscle energy production during high-intensity exercises where anaerobic respiration predominates. PFKP on the other hand manages glycolytic rates in tissues like brain and platelets which have unique energy demands. The activity of these enzymes is controlled by various metabolites reflecting cellular energy status.
Pathways	PFKM and PFKP are central components of the glycolysis pathway a critical energy-yielding process. Glycolysis not only provides ATP but also intermediates for other pathways like the Krebs cycle. Both PFKM and PFKP interact with enzymes like aldolase and pyruvate kinase coordinating energy production. Their regulation ensures proper adaptation to varying energy requirements across different cell types and tissues.
Associated diseases and disorders	PFKM mutations associate with glycogen storage disease type VII (Tarui's disease) where affected individuals suffer from exercise intolerance and muscle cramps. This connection highlights the importance of PFKM in muscle energy production. PFKP has been linked to cancer metabolism as it is involved in adapting glycolysis rates in tumors often called the Warburg effect. Dysregulation of these enzymes can alter metabolic processes interacting with proteins like lactate dehydrogenase contributing to disease 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.

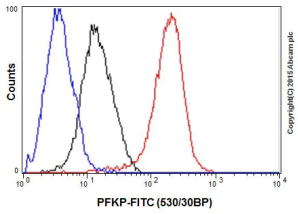
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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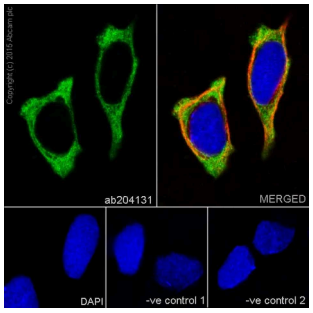
9 product images



Flow Cytometry (Intracellular) - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Flow Cytometry (Intracellular) staining using rabbit Anti-PFKM + PFKP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed MCF7 (Human breast adenocarcinoma cell line) cells labeling PFKP with ab204131 at 1/250 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.

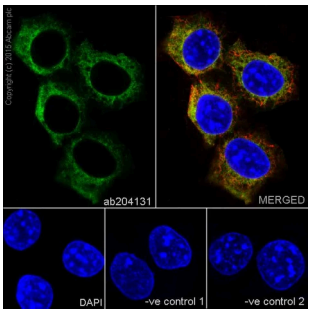


Immunocytochemistry/ Immunofluorescence - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PFKM + PFKP antibody

Immunofluorescent analysis of 100% methanl-fixed 0.1% Triton X-100 permeabilized MCF7 (Human breast adenocarcinoma cell line) cells labeling PFKP with ab204131 at 1/250 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on MCF7 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab204131 at 1/250 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.

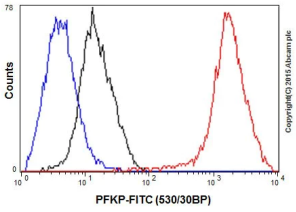
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PFKM + PFKP antibody

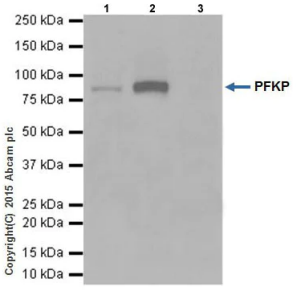
Immunofluorescent analysis of 100% methanl-fixed 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling PFKP with ab204131 at 1/250 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HeLa cell line. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab204131 at 1/250 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/1000 dilution.
-ve control 2: Anti-alpha Tubulin mouse MAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Flow Cytometry (Intracellular) staining using rabbit Anti-PFKM + PFKP antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling PFKP with ab204131 at 1/250 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKP was immunoprecipitated from 1mg of MCF7 (Human breast adenocarcinoma cell line) whole cell lysate with ab204131 at 1/80 dilution.
Western blot was performed from the immunoprecipitate using ab204131 at 1/1000 dilution.

Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: MCF7 whole cell lysate 10ug (Input).

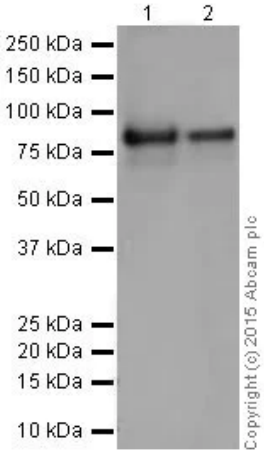
Lane 2: ab204131 IP in MCF7 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab204131 in MCF7 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

All lanes:
Immunoprecipitation - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)



Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131) at 1/2000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

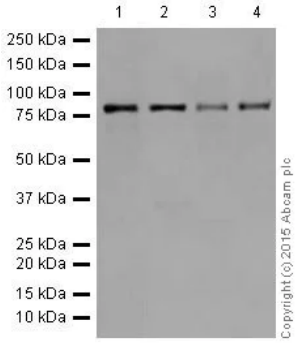
Lane 2:
Human fetal kidney lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/50000 dilution

Observed band size: 86 kDa

Exposure time: 5s



Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Western blot staining using rabbit Anti-PFKM + PFKP antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131) at 1/20000 dilution

Lane 1:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 2:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 3:
Raji (Human Burkitt's lymphoma cell line) whole cell lysate at 20 µg

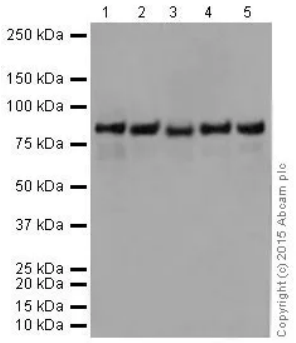
Lane 4:
Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Observed band size: 86 kDa

Exposure time: 5s



Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Western blot staining using rabbit Anti-PFKM + PFKP antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131) at 1/2000 dilution

Lane 1:
Mouse kidney lysate at 10 µg

Lane 2:
Mouse spleen lysate at 10 µg

Lane 3:
Rat kidney lysate at 10 µg

Lane 4:
Rat spleen lysate at 10 µg

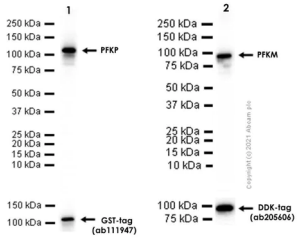
Lane 5:
NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Observed band size: 86 kDa

Exposure time: 5s



Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131)

PFKM + PFKP Western blot staining of DDK tagged Recombinant Human PFKM protein (Full length, 85 KDa) using rabbit Anti-PFKM + PFKP antibody

Blocking/diluting buffer and concentration: 5% NFDM/TBST
Exposure time: Lane1: 10 seconds
Lane 2: 1 seconds

All lanes:
Western blot - Anti-PFKM + PFKP antibody [EPR17314] (ab204131) at 1/1000 dilution

Lane 1:
Western blot - Recombinant Human PFKP protein (GST tag N-Terminus) (ab132823)

Lane 2:
DDK tagged Recombinant Human PFKM protein (Full length, 85 KDa)

Secondary

Lanes 1 - 2:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/20000 dilution

Lanes 1 - 2:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

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