abcam

ab242413

Anti-PFKM + PFKP antibody [EPR17314] - 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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR17314
Purification technique	Affinity purification Protein A
Concentration	0.989 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse, Rat, Human, Recombinant fragment - Human
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
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	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab242413 is the carrier-free version of ab204131.

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	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

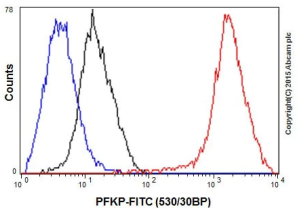
We do not recommend this combination. It is not covered by our product promise.

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.

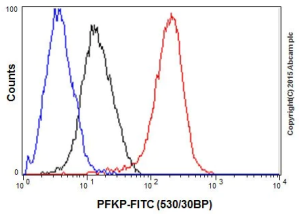
6 product images



Flow Cytometry (Intracellular) - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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

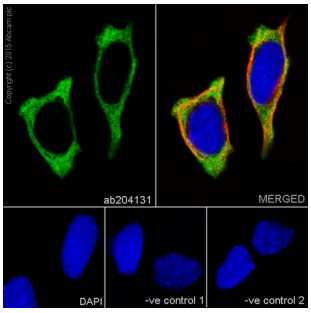
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed Jurkat (Human T cell leukemia cells from peripheral blood) cells labeling PFKP with ab204131 at 1/250 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab204131)



Flow Cytometry (Intracellular) - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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.
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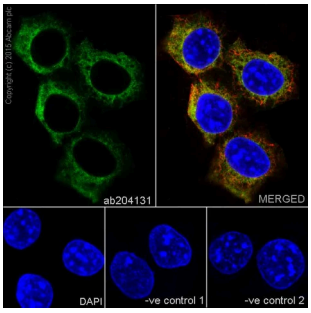


Immunocytochemistry/ Immunofluorescence - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab204131)

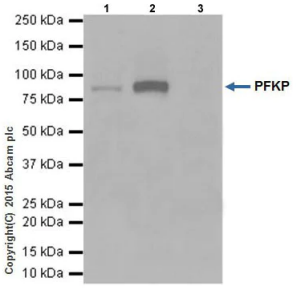


Immunocytochemistry/ Immunofluorescence - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab204131)



Immunoprecipitation - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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.

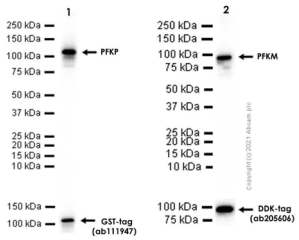
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab204131 in MCF7 whole cell lysate.

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

Exposure time: 10 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab204131)

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



Western blot - Anti-PFKM + PFKP antibody [EPR17314] - BSA and Azide free (ab242413)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab204131).
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'.