abcam

ab154804

Anti-PFKM antibody [EPR10734(B)]

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
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR10734(B)
Purification technique	Affinity purification Protein A
Concentration	2.706 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Rat

Dilution info	1/1000 - 1/10000
Notes	-

Species	Pig
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/300
Notes	**For unpurified use at 1: 50 - 1:100.**

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat, Pig

Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information PFKM

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 also known as phosphofructokinase muscle type is a protein involved in glycolysis. It functions as an enzyme that catalyzes the phosphorylation of fructose 6-phosphate to fructose 16-bisphosphate. This reaction is important for the regulation of glucose metabolism. The PFKM protein has an approximate mass of 85 kDa and is mainly expressed in muscle tissues. Alternate names for PFKM include 6-phosphofructokinase type M and PFK-1 highlighting its critical role in glycolytic processes.
Biological function summary	PFKM acts as an important regulatory component in glycolysis because it controls the rate-limiting step of this metabolic pathway. It forms a homo-tetramer complex which can vary in its exact subunit composition to modulate activity based on cellular energy requirements. The presence of allosteric sites on PFKM allows it to respond to different metabolic signals such as ATP and AMP levels highlighting its role in energy homeostasis. The ability to alter its conformation and enzymatic activity enables PFKM to efficiently regulate energy production and consumption at the cellular level.
Pathways	PFKM plays a pivotal role in the glycolytic pathway facilitating the breakdown of glucose for energy production. This enzyme not only relates to the glycolysis pathway but also interacts with other key proteins such as hexokinase and pyruvate kinase forming a tightly controlled network for efficient metabolic flow. PFKM's activity influences downstream processes including the citric acid cycle and oxidative phosphorylation through its provision of pyruvate.
Associated diseases and disorders	Defects in PFKM are associated with glycogen storage disease type VII also known as Tarui's disease. This disorder results from a deficiency in PFKM activity leading to the accumulation of glycogen in muscle tissues and resulting in exercise intolerance. Additionally PFKM dysfunction has connections to cancer given that many cancer cells exhibit increased glycolytic activity. Considering its role in disease studying PFKM can provide insights into potential therapeutic targets for conditions characterized by metabolic abnormalities.

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

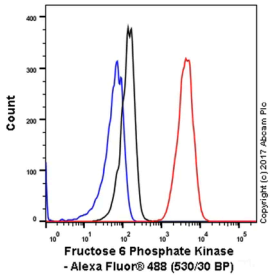
We do not recommend this combination. It is not covered by our product promise.

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.

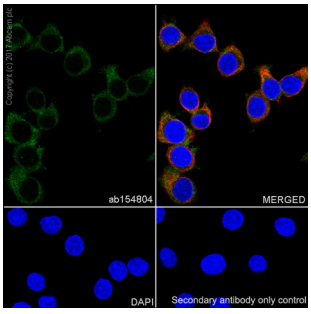
10 product images



Flow Cytometry (Intracellular) - Anti-PFKM antibody [EPR10734(B)] (ab154804)

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

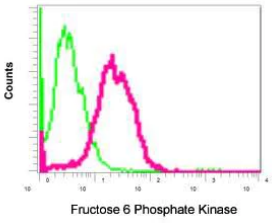
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling PFKM with purified ab154804 at 1/300 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PFKM antibody

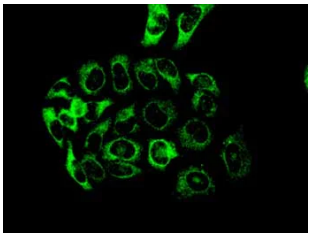
Immunocytochemistry/ Immunofluorescence analysis of SH-SY5Y (Human neuroblastoma epithelial cell) cells labeling PFKM with Purified ab154804 at 1:300 dilution (8.7µg/ml). Cells were fixed in 100% Methanol and cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-PFKM antibody [EPR10734(B)] (ab154804)

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

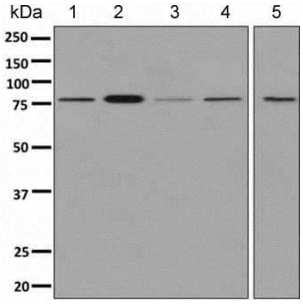
Intracellular flow cytometric analysis of permeabilized SHSY5Y cells labeling PFKM with ab154804 at 1/100 dilution (red) or a rabbit IgG (green - negative control).



Immunocytochemistry/ Immunofluorescence - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PFKM antibody

Immunofluorescence analysis of HeLa cells labeling PFKM with ab154804 at 1/50 dilution.



Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804) at 1/1000 dilution

Lane 1:
Fetal brain lysate at 10 µg

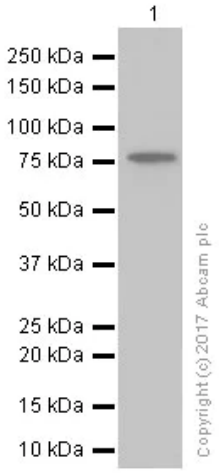
Lane 2:
Fetal heart lysate at 10 µg

Lane 3:
Ramos lysate at 10 µg

Lane 4:
SHSY5Y lysate at 10 µg

Lane 5:
HeLa lysate at 10 µg

Predicted band size: 85 kDa



Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Western blot staining of Human fetal heart lysates using rabbit Anti-PFKM antibody

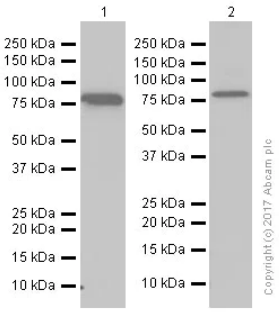
Blocking and diluting buffer : 5% NFDM/TBST
All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804) at 1/2000 dilution

All lanes:
Human fetal heart lysates at 15 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 85 kDa



Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Western blot staining using rabbit Anti-PFKM antibody

Blocking and diluting buffer : 5% NFDM/TBST
All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804) at 1/2000 dilution

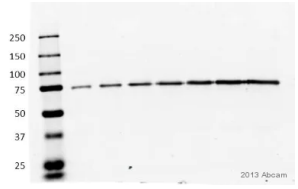
Lane 1:
Rat skeletal muscle lysates at 15 µg

Lane 2:
Mouse skeletal muscle lysates at 15 µg

Secondary

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

Predicted band size: 22 kDa, 85 kDa



This image is courtesy of a customer review submitted by Eric England

Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Western blot staining using rabbit Anti-PFKM antibody

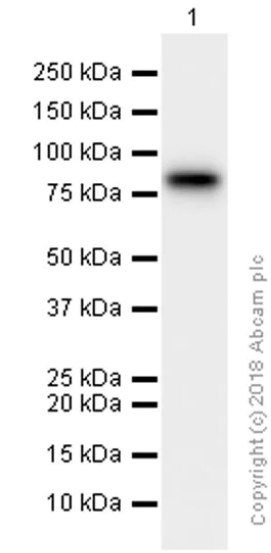
Western blot analysis of Pig skeletal muscle tissue lysate using ab154804 (1:2000 in 1x PBS + 0.1% Tween-20 for 1 hour at 22°C) to label PFKM. A IRDye® 680-conjugated Donkey anti-rabbit IgG (1:40000) was used as the secondary antibody. The image shows increasing amounts of loaded protein for antibody optimization. The far left lane is the molecular weight standard.
All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

Performed under reducing conditions.

Predicted band size: 85 kDa

Observed band size: 81 kDa

Exposure time: 5min



Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Western blot staining of Pig heart lysates using rabbit Anti-PFKM antibody

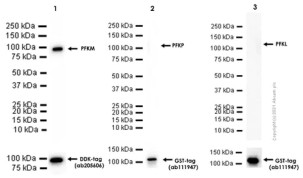
Blocking and diluting buffer : 5% NFDM/TBST
All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804) at 1/10000 dilution

All lanes:
Pig heart lysates at 15 µg

Secondary

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

Predicted band size: 85 kDa



Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804)

PFKM Western blot staining using rabbit Anti-PFKM antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure times: Lane 1: 3 seconds; Lane 2: 10 seconds; Lane 3: 180 seconds.

All lanes:
Western blot - Anti-PFKM antibody [EPR10734(B)] (ab154804) at 1/1000 dilution

Lane 1:
DDK tagged Recombinant Human PFKM protein (Full length, 85 KDa)

Lane 2:
Western blot - Recombinant Human PFKP protein (GST tag N-Terminus) (ab132823)

Lane 3:
GST tagged Recombinant Human PFKL protein (Full length, 116 KDa)

Secondary

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

Predicted band size: 85 kDa

Observed band size: 85 kDa

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