abcam

# ab181064

# Anti-PFKM + PFKL antibody [EPR11904]

Recombinant | RabMAb | 20ul selling size

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | 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** | EPR11904 |
| **Purity** | Tissue culture supernatant |

## Reactivity data

## WB

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/1000 - 1/10000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 - 1/10000 |

| | |
|---|---|
| **Notes** | - |

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

| | |
|---|---|
| **Species** | Recombinant full length protein - Human |
| **Dilution info** | 1/1000 - 1/10000 |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 - 1/100 |
| **Notes** | - |

### Expected

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

### Not recommended

| | |
|---|---|
| **Species** | Recombinant full length protein - Human |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/10 |

| | |
|---|---|
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Human, Mouse |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Recombinant full length protein - Human |
| **Dilution info** | - |
| **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 and PFKL are key isoforms of phosphofructokinase an enzyme that catalyzes the phosphorylation of fructose-6-phosphate to fructose-16-bisphosphate in glycolysis. PFKM also known as phosphofructokinase muscle type has a mass of approximately 85 kDa while PFKL or phosphofructokinase liver type is about 83 kDa. These isoforms express mainly in muscle and liver tissues respectively where they play a significant role in energy metabolism. |
| **Biological function summary** | PFKM and PFKL are important components of the glycolysis metabolic pathway. These enzymes form a multi-subunit complex called phosphofructokinase that regulates the rate-limiting step of glycolysis ensuring efficient energy production. This complex adapts to changes in cellular energy demands and environmental conditions therefore controlling glucose breakdown. |
| **Pathways** | PFKM and PFKL are integral to glycolysis and gluconeogenesis processes essential for energy production and glucose homeostasis. PFKM closely interacts with hexokinase and pyruvate kinase in the glycolytic pathway ensuring continuation of the energy yield process. PFKL participates similarly with both aiding in maintaining the proper functioning of cellular metabolic activities. |
| **Associated diseases and disorders** | Abnormalities in PFKM and PFKL activity associate with glycogen storage disease type VII (Tarui's disease) and non-insulin-dependent diabetes mellitus. PFKM mutations lead to impaired glycolysis in muscle cells causing exercise intolerance and muscle cramps while PFKL variants can alter glucose metabolism contributing to diabetes development. These proteins' roles in diseases provide insight into potential therapeutic targets for metabolic disorders. |

## 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.

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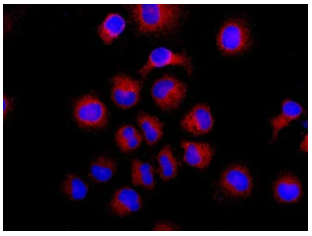
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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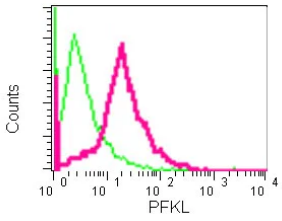
## 5 product images



### Immunocytochemistry/ Immunofluorescence - Anti-PFKM + PFKL antibody [EPR11904] (ab181064)

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

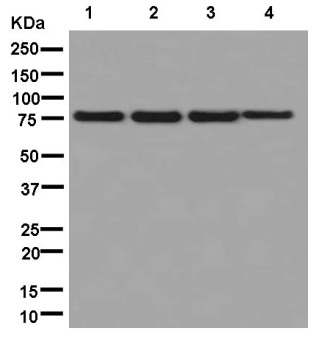
Immunofluorescent analysis of HeLa cells (-20°C Acetone-fixed) staining PFKL with ab181064 at 1/100 dilution, followed by Goat anti rabbit IgG (Alexa Fluor® 555) secondary antibody at 1/200 dilution. Counter stained with Dapi.




### Flow Cytometry (Intracellular) - Anti-PFKM + PFKL antibody [EPR11904] (ab181064)

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

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixedC6 cells labeling PFKL with ab181064 at 1/10 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed byGoat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.




### Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064)

All lanes:
Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064) at 1/1000 dilution

Lane 1:
C6 cell lysate at 10 µg

Lane 2:

Raw264.7 cell lysate at 10 µg

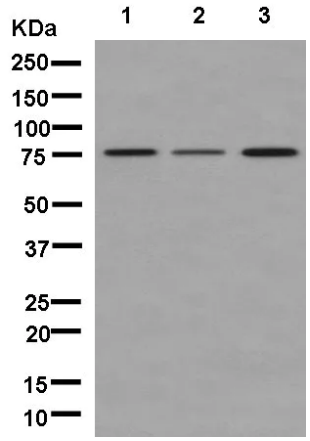
Lane 3:
PC-12 cell lysate at 10 µg

Lane 4:
NIH/3T3 cell lysate at 10 µg

Secondary

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

Observed band size: 78 kDa




## Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064)

All lanes:
Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064) at 1/5000 dilution

Lane 1:
HepG2 cell lysate at 10 µg

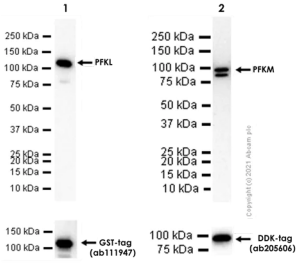
Lane 2:
A431 cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Secondary

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

Observed band size: 78 kDa




## Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064)

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

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

All lanes:
Western blot - Anti-PFKM + PFKL antibody [EPR11904] (ab181064) at 1/1000 dilution

Lane 1:
GST tagged Recombinant Human PFKL protein (Full length, 116 KDa)

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

Secondary

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

Exposure time: 180s

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