abcam

ab176338

Anti-PHKA1 antibody [EPR12118]

Recombinant | RabMAb | KO Validated

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	EPR12118
Purification technique	Affinity purification Protein A
Concentration	1.248 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

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

Expected

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

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
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.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PHKA1

Function	Phosphorylase b kinase catalyzes the phosphorylation of serine in certain substrates, including troponin I. The alpha chain may bind calmodulin.

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	PHKA1 also known as phosphorylase kinase alpha 1 is a regulatory subunit of the phosphorylase kinase enzyme complex with a molecular mass around 138 kDa. This protein is mainly expressed in skeletal muscle and heart tissue. PHKA1 plays an important role in glycogen metabolism by regulating the conversion of phosphorylase b to phosphorylase a which ultimately leads to glycogen breakdown.
Biological function summary	Glycogen metabolism involves PHKA1 as part of the phosphorylase kinase complex. This complex exists in the muscle and liver and includes alpha beta gamma and delta subunits. PHKA1 binds together with these subunits to form a large complex helping to regulate the activity state of the enzyme. The regulation of glycogen phosphorylase is important for maintaining energy supply in cells particularly during physical activity.
Pathways	The activity of PHKA1 impacts glycogenolysis which is a significant metabolic pathway responsible for breaking down glycogen into glucose-1-phosphate. This pathway involves other proteins like glycogen phosphorylase and phosphoprotein phosphatase 1. PHKA1 has interactions within the cascade that ensures proper glycogen breakdown especially during conditions requiring increased energy output.
Associated diseases and disorders	Mutations in PHKA1 are linked to glycogen storage disease type IXd (GSD IXd) which primarily affects muscle tissue. This condition features exercise intolerance and muscle weakness due to impaired glycogen breakdown. PHKB another homologous phosphorylase kinase subunit can connect to similar energy metabolism disruptions showing a clear association with the disorder pathway alongside PHKA1.

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

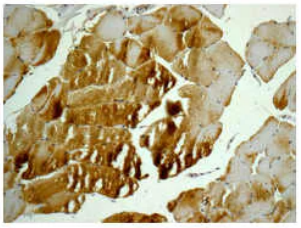
We do not recommend this combination. It is not covered by our product promise.

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.

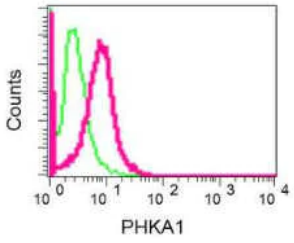
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PHKA1 antibody [EPR12118] (ab176338)

PHKA1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-PHKA1 antibody

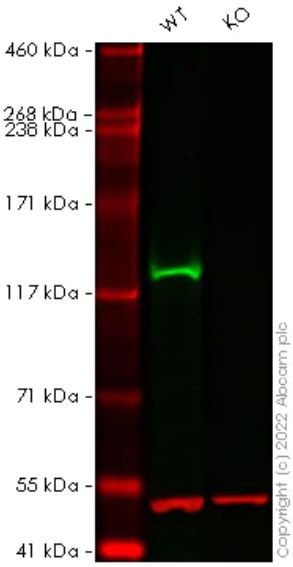
Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling PHKA1 with ab176338 at 1/100 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-PHKA1 antibody [EPR12118] (ab176338)

PHKA1 Flow Cytometry (Intracellular) staining using rabbit Anti-PHKA1 antibody

Intracellular flow cytometric analysis of permeabilized Hela cells labeling PHKA1 with ab176338 at 1/10 dilution (red) or a rabbit IgG (negative) (green).



Western blot - Anti-PHKA1 antibody [EPR12118] (ab176338)

False colour image of Western blot: Anti-PHKA1 antibody [EPR12118] staining at 1/1000 dilution, shown in green; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab176338 was shown to bind specifically to PHKA1. A band was observed at 130 kDa in wild-type HEK-293T cell lysates with no signal observed at this size in PHKA1 knockout cell line ab267337 (knockout cell lysate ab258111). To generate this image, wild-type and PHKA1 knockout HEK-293T cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % 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.
Lanes 1 - 2:
Western blot - Anti-PHKA1 antibody [EPR12118] - BSA and Azide free (ab249913) at 1/1000 dilution

Lanes 1 - 2:
Western blot - Anti-PHKA1 antibody [EPR12118] (ab176338) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
PHKA1 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human PHKA1 knockout HEK-293T cell line (ab267337)

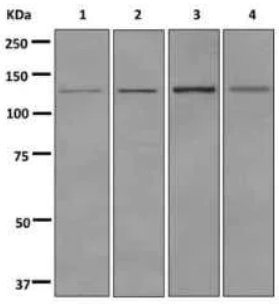
Lane 2:
Western blot - Human PHKA1 knockout HEK-293T cell lysate (ab258111)

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.

Observed band size: 130 kDa



Western blot - Anti-PHKA1 antibody [EPR12118] (ab176338)

All lanes:
Western blot - Anti-PHKA1 antibody [EPR12118] (ab176338) at 1/1000 dilution

Lane 1:
A431 cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Lane 4:
Human skeletal muscle lysate at 10 µg

Predicted band size: 137 kDa

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