abcam

ab249435

Anti-PHKG2 antibody [EPR9727] - 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
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR9727
Purification technique	Affinity purification

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information PHKG2

Function Catalytic subunit of the phosphorylase b kinase (PHK), which mediates the neural and hormonal regulation of glycogen breakdown (glycogenolysis) by phosphorylating and thereby activating glycogen phosphorylase. May regulate glycogeneolysis in the testis. In vitro, phosphorylates PYGM (PubMed:35549678).

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

ab249435 is the carrier-free version of ab167424.

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	PHKG2 also known as phosphorylase kinase gamma 2 is a catalytic subunit of the phosphorylase kinase (PhK) enzyme. PHKG2 has a molecular weight of approximately 44 kDa. This enzyme is responsible for the phosphorylation of

	serine residues in glycogen phosphorylase which is necessary for glycogen breakdown. PHKG2 is expressed mainly in muscle and liver tissues where it plays a role in the regulation of glycogen metabolism.
Biological function summary	Phosphorylase kinase involving PHKG2 is critical for the regulation of glycogenolysis. It forms a complex with other subunits including alpha beta and delta contributing to the full enzymatic activity of PhK. As part of this multi-subunit complex PHKG2 facilitates the conversion of glycogen to glucose-1-phosphate ensuring that energy production meets cellular demands during physical activity or fasting.
Pathways	The glycogenolysis process involving PHKG2 is tightly linked with the cAMP-dependent protein kinase (PKA) signaling pathway. Phosphorylase kinase gets activated by PKA under hormonal control prompting glycogen breakdown and maintaining glucose homeostasis. Additionally PHKG2's activity is connected with the insulin signaling pathway which integrates with its function to regulate carbohydrate metabolism especially relating to its interaction with proteins such as glycogen synthase and protein phosphatase 1.
Associated diseases and disorders	Mutations in PHKG2 associate with Glycogen Storage Disease Type IX (GSD IX) a disorder characterized by an inability to properly break down glycogen leading to muscle weakness and hepatomegaly. PHKG2's interaction with proteins like alpha-glucosidase also links it to conditions like Pompe disease where glycogen buildup occurs due to deficient enzyme activity. Monitoring and understanding PHKG2's role in these contexts is important for developing therapeutic strategies.

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

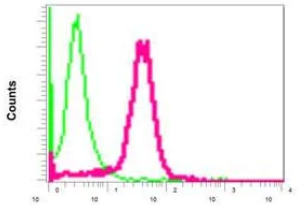
We do not recommend this combination. It is not covered by our product promise.

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.

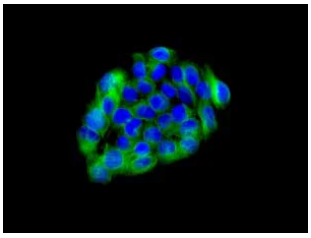
4 product images



Flow Cytometry (Intracellular) - Anti-PHKG2 antibody [EPR9727] - BSA and Azide free (ab249435)

PHKG2 Flow Cytometry (Intracellular) staining using rabbit Anti-PHKG2 antibody

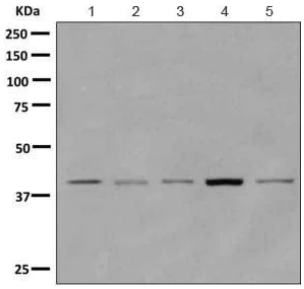
This data was developed using ab167424, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized 293T cells labeling PHKG2 with ab167424 at 1/100 (red) or a rabbit IgG negative (green).



Immunocytochemistry/ Immunofluorescence - Anti-PHKG2 antibody [EPR9727] - BSA and Azide free (ab249435)

PHKG2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PHKG2 antibody

This data was developed using ab167424, the same antibody clone in a different buffer formulation.Immunofluorescent staining of HepG2 cells labeling PHKG2 with ab167424 at 1/100 dilution.



Western blot - Anti-PHKG2 antibody [EPR9727] - BSA and Azide free (ab249435)

PHKG2 Western blot staining using rabbit Anti-PHKG2 antibody

This data was developed using ab167424, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-PHKG2 antibody [EPR9727] (ab167424) at 1/1000 dilution

Lane 1:
Human fetal lung tissue lysate at 10 µg

Lane 2:
HepG2 cell lysate at 10 µg

Lane 3:
Ramos cell lysate at 10 µg

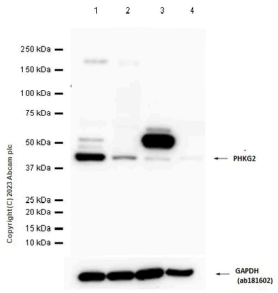
Lane 4:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Lane 5:
HeLa cell lysate at 10 µg

Secondary

All lanes:
Goat anti-rabbit HRP antibody at 1/2000 dilution

Predicted band size: 46 kDa



Western blot - Anti-PHKG2 antibody [EPR9727] - BSA and Azide free (ab249435)

This data was developed using ab167424, the same antibody clone in a different buffer formulation. PHKG2 is a liver/testis isoform of the phosphorylase kinase gamma subunit enriched in testis (PMID: 8896567). Blocking and diluting buffer: 5% NFDM /TBST
Lanes 1 - 4:
Western blot - Anti-PHKG2 antibody [EPR9727] (ab167424) at 1/1000 dilution

Lanes 1 - 4:
Western blot - Anti-PHKG2 antibody [EPR9727] - BSA and Azide free (ab249435)

Lane 1:
Human testis tissue lysate at 20 µg

Lane 2:
Human lung tissue lysate at 20 µg

Lane 3:
Human brain tissue lysate at 20 µg

Lane 4:
Human breast tissue lysate at 20 µg

Secondary

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

Observed band size: 43 kDa

Exposure time: 80s

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