abcam

ab248122

Anti-Glycerol kinase antibody [EPR6567] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR6567
Purification technique	Affinity purification Protein A
Dissociation constant	4.8 x 10^{-11} M
Concentration	1.016 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat

Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-

Notes	-

Target data

See full target information Glycerol kinase

Function	Kinase that plays a key role in glycerol metabolism, catalyzing its phosphorylation to produce sn-glycerol 3-phosphate. Sn-glycerol 3-phosphate is a crucial intermediate in various metabolic pathways, such as the synthesis of glycerolipids and triglycerides, glycogenesis, glycolysis and gluconeogenesis.

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

ab248122 is the carrier-free version of ab126599.

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	Glycerol kinase also known as GK or Gyk acts as a catalyst in the phosphorylation of glycerol to glycerol-3-phosphate. This enzymatic activity is important for the utilization of glycerol in metabolic processes. Glycerol kinase is expressed in tissues such as liver kidney and adipose tissue. Its molecular weight varies depending on the species but in humans it is around 60 kDa when analyzed using methods like glycerol SDS PAGE. In human cells like HEK293T reliable detection of glycerol kinase is possible due to its considerable expression.
Biological function summary	The main role of glycerol kinase relates to its function in lipid metabolism and energy homeostasis. It exists as a part of a biochemical pathway but does not typically form a complex with other proteins. Glycerol kinase enables cells to utilize glycerol as an energy source by converting it into glycerol-3-phosphate which feeds into further metabolic pathways. This conversion is essential for the balance of energy supply and the production of triglycerides and phospholipids.
Pathways	Metabolism and energy production heavily rely on the function of glycerol kinase. This enzyme acts within the glycerolipid metabolism and gluconeogenesis pathways. In these pathways it is connected to other enzymes like glycerol-3-phosphate dehydrogenase which further processes the glycerol-3-phosphate produced by glycerol kinase. The enzyme's availability affects the rate of these pathways and in turn influences lipid and glucose metabolism in the body.
Associated diseases and disorders	Glycerol kinase deficiency leads to complex metabolic syndromes such as hyperglycerolemia and congenital adrenal hyperplasia. Hyperglycerolemia results from excess glycerol in the blood due to impaired conversion by the enzyme. In congenital adrenal hyperplasia alterations in metabolic function relate to glycerol kinase's impact on stress response and energy balance. Disorders related to glycerol kinase sometimes involve interactions with other proteins and enzymes involved in broader metabolic processes affecting overall metabolism and physiology.

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.

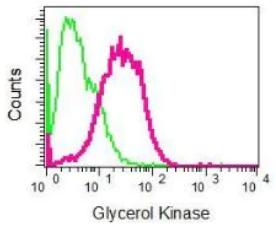
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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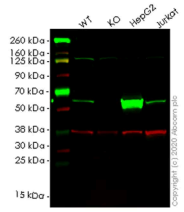
4 product images



Flow Cytometry (Intracellular) - Anti-Glycerol kinase antibody [EPR6567] - BSA and Azide free (ab248122)

Glycerol kinase Flow Cytometry (Intracellular) staining using rabbit Anti-Glycerol kinase antibody

This data was developed using ab126599, the same antibody clone in a different buffer formulation.
ab126599, at 1/100 dilution, staining Glycerol kinase in permeabilized HepG2 cells by ImmunoFluorescence (red). A rabbit IgG is used as a negative control (green).



Western blot - Anti-Glycerol kinase antibody [EPR6567] - BSA and Azide free (ab248122)

Glycerol kinase Western blot staining using rabbit Anti-Glycerol kinase antibody

This data was developed using ab126599, the same antibody clone in a different buffer formulation.
Lanes 1-4: Merged signal (red and green). Green - ab126599 observed at 61 kDa. Red - loading control ab8245 observed at 36 kDa.

ab126599 Anti-Glycerol kinase antibody [EPR6567] was shown to specifically react with Glycerol kinase in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab267328 (knockout cell lysate ab257966) was used. Wild-type and Glycerol kinase knockout samples were subjected to SDS-PAGE. ab126599 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 500 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Glycerol kinase antibody [EPR6567] (ab126599) at 1/500 dilution

Lane 1:

Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 20 µg

Lane 2:
Western blot - Human GK (Glycerol kinase) knockout HEK-293T cell lysate (ab257966) at 20 µg

Lane 3:
HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

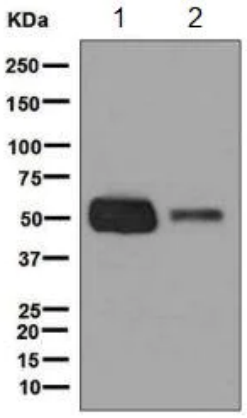
Lane 4:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 61 kDa

Observed band size: 61 kDa



Western blot - Anti-Glycerol kinase antibody [EPR6567] - BSA and Azide free (ab248122)

Glycerol kinase Western blot staining using rabbit Anti-Glycerol kinase antibody

This data was developed using ab126599, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Glycerol kinase antibody [EPR6567] (ab126599) at 1/1000 dilution

Lane 1:
Fetal liver tissue lysate at 10 µg

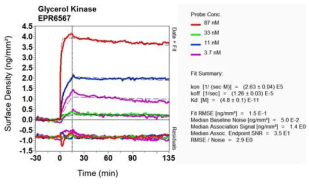
Lane 2:
HepG2 cell lysate at 10 µg

Secondary

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

Predicted band size: 61 kDa

Observed band size: 55 kDa



OI-RD Scanning - Anti-Glycerol kinase antibody [EPR6567] - BSA and Azide free (ab248122)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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