abcam

ab126599

Anti-Glycerol kinase antibody [EPR6567]

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, 50% Tissue culture supernatant, 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	EPR6567
Purification technique	Affinity purification Protein A
Dissociation constant	4.8 x 10^{-11} M
Concentration	0.136 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	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

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 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	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

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	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

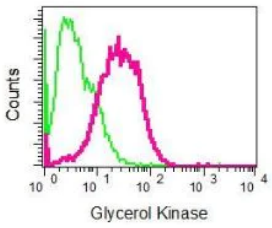
We do not recommend this combination. It is not covered by our product promise.

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.

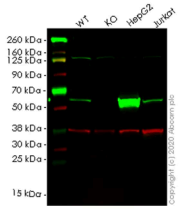
5 product images



Flow Cytometry (Intracellular) - Anti-Glycerol kinase antibody [EPR6567] (ab126599)

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

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] (ab126599)

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

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

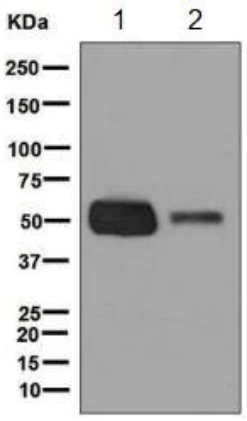
Lane 4:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

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] (ab126599)

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

All lanes:
Western blot - Anti-Glycerol kinase antibody [EPR6567] (ab126599) at 1/1000 dilution

Lane 1:
Fetal liver tissue lysate at 10 µg

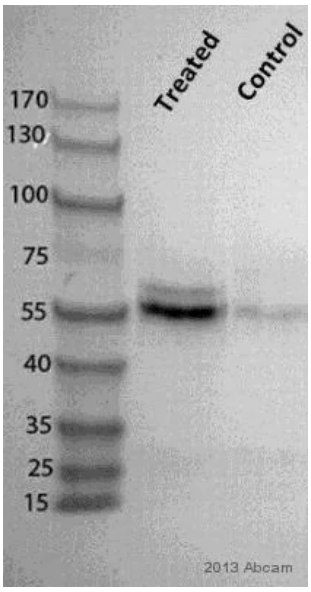
Lane 2:
HepG2 cell lysate at 10 µg

Secondary

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

Predicted band size: 61 kDa

Observed band size: 55 kDa



This image is courtesy of an anonymous customer review

Western blot - Anti-Glycerol kinase antibody [EPR6567] (ab126599)

All lanes:
Western blot - Anti-Glycerol kinase antibody [EPR6567] (ab126599) at 1/1000 dilution

All lanes:
Mouse adipose tissue lysate at 25 µg

Secondary

All lanes:
HRP-conjugated Donkey anti-rabbit polyclonal at 1/5000 dilution

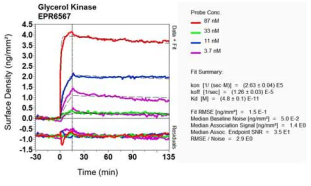
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 61 kDa

Observed band size: 55 kDa

Exposure time: 5min



OI-RD Scanning - Anti-Glycerol kinase antibody [EPR6567] (ab126599)

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'.