abcam

ab157206

Anti-AK2 antibody [EPR11387(B)]

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	EPR11387(B)
Purification technique	Affinity purification Protein A
Concentration	0.303 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

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

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

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

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information AK2

Function	Catalyzes the reversible transfer of the terminal phosphate group between ATP and AMP. Plays an important role in cellular energy homeostasis and in adenine nucleotide metabolism. Adenylate kinase activity is critical for regulation of the

phosphate utilization and the AMP de novo biosynthesis pathways. Plays a key role in hematopoiesis.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	The adenylate kinase 2 also known as AK2 is an enzyme that catalyzes the conversion of adenine nucleotides within the cell. It facilitates the reversible conversion of ADP into ATP and AMP playing a critical role in cellular energy homeostasis. AK2 weighing approximately 26 kDa is primarily found in the mitochondrial intermembrane space of various tissues including liver muscle and brain. Its expression allows for efficient energy transfer essential for normal mitochondrial function and cellular metabolism.
Biological function summary	AK2 functions in energy transfer and regulation in the cell serving as an important component in maintaining cellular ATP levels. AK2 is an integral part of the mitochondrial adenylate kinase system which manages energy flux in cells. By balancing the concentrations of ATP ADP and AMP AK2 directly influences cellular

	energy state and metabolic activity. The enzyme also supports nucleotide homeostasis therefore facilitating processes such as signal transduction and nucleic acid synthesis.
Pathways	AK2 is involved in the adenylate kinase pathway important for energy metabolism. It coordinates with other enzymes like AK1 and AK3 ensuring efficient energy distribution in the cell. AK2 also interfaces with the apoptosis signaling pathways where it plays a part in regulating programmed cell death. The interaction of AK2 within these pathways emphasizes its essential role in maintaining cellular energy balance and undergoing apoptosis when necessary.
Associated diseases and disorders	AK2 mutations link to rare conditions like reticular dysgenesis a severe form of combined immunodeficiency. The disorder arises when AK2 fails to initiate proper energy transfer necessary for white blood cell development. AK2 is also related to mitochondrial disorders where energy production gets critically impaired manifesting in muscle weakness and neurodegenerative symptoms. The enzyme's connection to proteins involved in energy pathways suggests its potential contribution to the progression of such diseases.

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

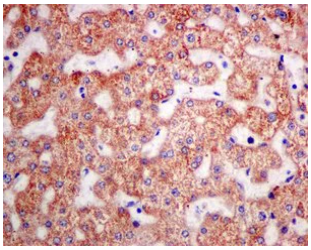
We do not recommend this combination. It is not covered by our product promise.

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.

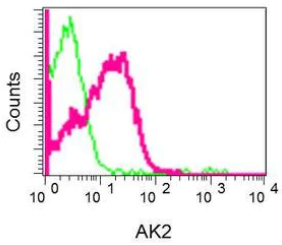
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AK2 antibody [EPR11387(B)] (ab157206)

AK2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-AK2 antibody

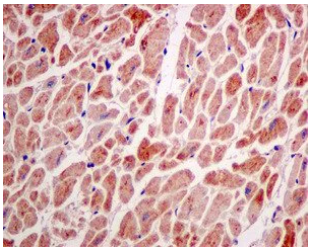
Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human liver tissue, labeling AK2 using ab157206 at a 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-AK2 antibody [EPR11387(B)] (ab157206)

AK2 Flow Cytometry (Intracellular) staining using rabbit Anti-AK2 antibody

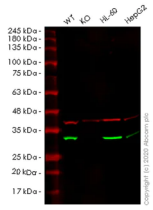
Intracellular Flow Cytometry analysis of permeabilized HeLa cells labeling AK2 (red), using ab157206 at a 1/10 dilution, and negative control cells probed with a Rabbit IgG (green)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AK2 antibody [EPR11387(B)] (ab157206)

AK2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-AK2 antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human heart tissue, labeling AK2 using ab157206 at a 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-AK2 antibody [EPR11387(B)] (ab157206)

AK2 Western blot staining using rabbit Anti-AK2 antibody

Lanes 1-4: Merged signal (red and green). Green - ab157206 observed at 30 kDa. Red - loading control ab8245 observed at 36 kDa.
ab157206 Anti-AK2 antibody [EPR11387(B)] was shown to specifically react with AK2 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab266539 (knockout cell lysate ab257825) was used. Wild-type and AK2 knockout samples were subjected to SDS-PAGE. ab157206 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated at room temperature for 2.5 hours at 1 in 1000 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-AK2 antibody [EPR11387(B)] (ab157206) at 1/1000 dilution

Lane 1:
Wild-type HEK293T cell lysate at 20 µg

Lane 2:
AK2 knockout HEK293T cell lysate at 20 µg

Lane 2:
Western blot - Human AK2 knockout HEK-293T cell lysate (ab257825) at 20 µg

Lane 3:
HL-60 cell lysate at 20 µg

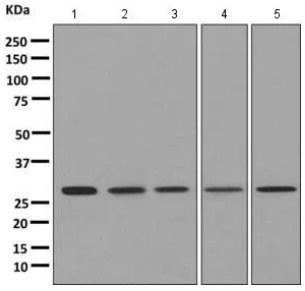
Lane 4:
HepG2 cell lysate at 20 µg

Secondary

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

Predicted band size: 26 kDa

Observed band size: 30 kDa



Western blot - Anti-AK2 antibody [EPR11387(B)] (ab157206)

All lanes:
Western blot - Anti-AK2 antibody [EPR11387(B)] (ab157206) at 1/1000 dilution

Lane 1:
HepG2 lysate at 10 µg

Lane 2:
fetal kidney lysate at 10 µg

Lane 3:
fetal heart lysate at 10 µg

Lane 4:
HeLa lysate at 10 µg

Lane 5:
fetal liver lysate at 10 µg

Predicted band size: 26 kDa

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