abcam

Product datasheet

Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free ab249383

KO VALIDATED Recombinant RabMAb

7 Images

Overview

Product name	Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free
Description	Rabbit monoclonal [EPR11388(B)] to AK2 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF, IHC-P, IP **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Fetal kidney, Fetal liver, HEK-293T, HL-60, HepG2, MCF-7 and HeLa lysates. IHC-P: Paraffin-embedded Human kidney tissue and paraffin-embedded Human stomach tissue. ICC/IF: MCF7 cells.
General notes	ab249383 is the carrier-free version of **ab166901**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. 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. 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. 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 production

For more information **see here**.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR11388(B)
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab249383 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 26 kDa.
ICC/IF		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
IP		Use at an assay dependent concentration.

Application notes Is unsuitable for Flow Cyt.

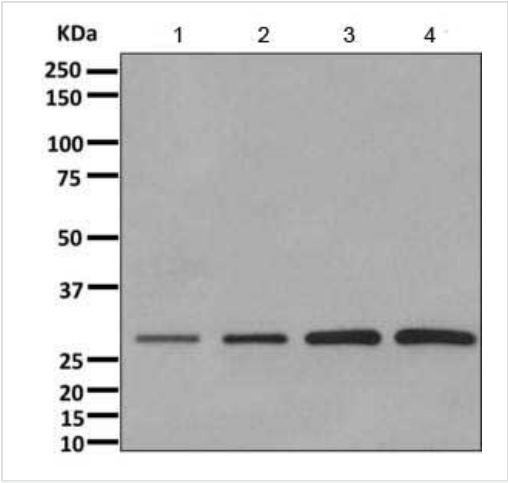
Target

Function Catalyzes the reversible transfer of the terminal phosphate group between ATP and AMP. This small ubiquitous enzyme involved in energy metabolism and nucleotide synthesis that is essential for maintenance and cell growth. Plays a key role in hematopoiesis.

Tissue specificity Present in most tissues. Present at high level in heart, liver and kidney, and at low level in brain, skeletal muscle and skin. Present in thrombocytes but not in erythrocytes, which lack mitochondria. Present in all nucleated cell populations from blood, while AK1 is mostly absent. In spleen and lymph nodes, mononuclear cells lack AK1, whereas AK2 is readily detectable. These results indicate that leukocytes may be susceptible to defects caused by the lack of AK2, as they

	do not express AK1 in sufficient amounts to compensate for the AK2 functional deficits (at protein level).
Involvement in disease	Defects in AK2 are the cause of reticular dysgenesis (RDYS) [MIM:267500]; also known as aleukocytosis. RDYS is the most severe form of inborn severe combined immunodeficiencies (SCID) and is characterized by absence of granulocytes and almost complete deficiency of lymphocytes in peripheral blood, hypoplasia of the thymus and secondary lymphoid organs, and lack of innate and adaptive humoral and cellular immune functions, leading to fatal septicemia within days after birth. In bone marrow of individuals with reticular dysgenesis, myeloid differentiation is blocked at the promyelocytic stage, whereas erythro- and megakaryocytic maturation is generally normal.In addition, affected newborns have bilateral sensorineural deafness. Defects may be due to its absence in leukocytes and inner ear, in which its absence can not be compensated by AK1.
Sequence similarities	Belongs to the adenylate kinase family. AK2 subfamily.
Cellular localization	Mitochondrion intermembrane space.

Images



Western blot - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

All lanes : Anti-AK2 antibody [EPR11388(B)] (**ab166901**) at 1/1000 dilution

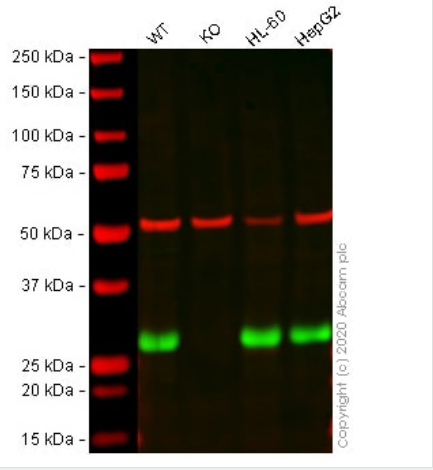
Lane 1 : Fetal kidney lysate
Lane 2 : Fetal liver lysate
Lane 3 : HepG2 cell lysate
Lane 4 : HeLa cell lysate

Lysates/proteins at 10 µg per lane.

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

Predicted band size: 26 kDa

This data was developed using **ab166901**, the same antibody clone in a different buffer formulation.



Western blot - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

All lanes : Anti-AK2 antibody [EPR11388(B)] (**ab166901**) at 1/1000 dilution

Lane 1 : Wild-type HEK-293T cell lysate
Lane 2 : AK2 knockout HEK-293T cell lysate
Lane 3 : HL-60 cell lysate
Lane 4 : HepG2 cell lysate

Lysates/proteins at 20 µg per lane.

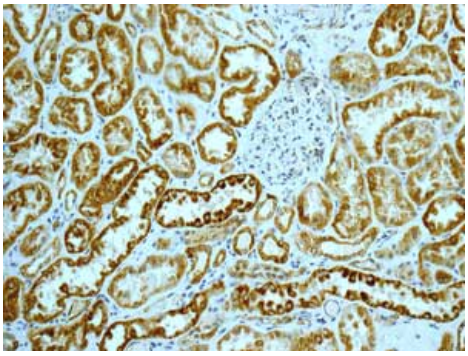
Performed under reducing conditions.

Predicted band size: 26 kDa
Observed band size: 26 kDa

This data was developed using the same antibody clone in a different buffer formulation (**ab166901**).

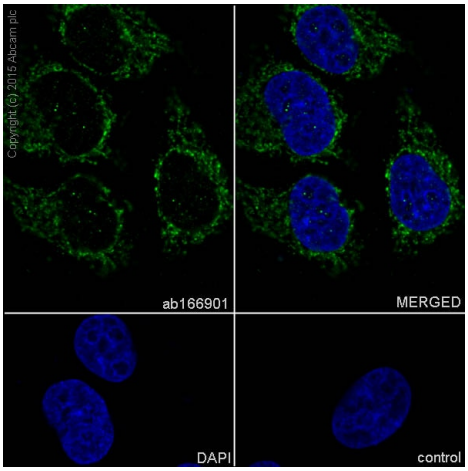
Lanes 1 - 4: Merged signal (red and green). Green - **ab166901** observed at 26 kDa. Red - loading control **ab7291** (Mouse anti-Alpha Tubulin [DM1A] observed at 55kDa.

ab166901 was shown to react with AK2 in wild-type HEK-293T cells in western blot with loss of signal observed in AK2 knockout cell line **ab266539** (AK2 knockout cell lysate **ab257825**). Wild-type and AK2 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3% milk in TBS-T (0.1% Tween®) before incubation with **ab166901** and **ab7291** (Mouse anti-Alpha Tubulin [DM1A] overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



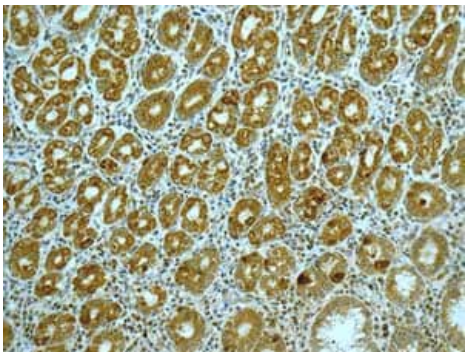
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

This data was developed using **ab166901**, the same antibody clone in a different buffer formulation.Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling AK2 using **ab166901** at 1/100 dilution. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



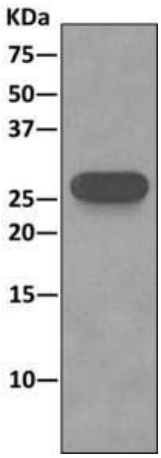
Immunocytochemistry/ Immunofluorescence - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

This data was developed using **ab166901**, the same antibody clone in a different buffer formulation.Immunocytochemistry/Immunofluorescence analysis MCF-7 (human breast carcinoma) cells labelling AK2 with purified **ab166901** at a dilution of 1/500. Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% tritonX-100. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (**ab150077**) at dilution of 1/1000 was used as the secondary antibody. Nuclei counterstained with DAPI (blue). Secondary Only Control: PBS was used instead of the primary antibody as the negative control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

This data was developed using **ab166901**, the same antibody clone in a different buffer formulation.Immunohistochemical analysis of paraffin-embedded Human stomach tissue labeling AK2 using **ab166901** at 1/100 dilution. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

This data was developed using **ab166901**, the same antibody clone in a different buffer formulation.Immunoprecipitation of AK2 from HeLa cell lysate pellet using **ab166901** at 1/10 dilution followed by immunoblotting. HRP-conjugated anti-rabbit IgG preferentially detecting the non-reduced form of rabbit IgG.

Anti-AK2 antibody [EPR11388(B)] - BSA and Azide free (ab249383)

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