10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

AK4 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP20571a

Specification

AK4 Antibody (Center) - Product Information

Application	**WB, IF, IHC-P,E**
Primary Accession	P27144
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**25268**

AK4 Antibody (Center) - Additional Information

Gene ID 205

Other Names
Adenylate kinase 4, mitochondrial {ECO:0000255|HAMAP-Rule:MF_03170}, AK 4 {ECO:0000255|HAMAP-Rule:MF_03170}, 27410 {ECO:0000255|HAMAP-Rule:MF_03170}, 2746 {ECO:0000255|HAMAP-Rule:MF_03170}, Adenylate kinase 3-like {ECO:0000255|HAMAP-Rule:MF_03170}, GTP:AMP phosphotransferase AK4 {ECO:0000255|HAMAP-Rule:MF_03170}, AK4 {ECO:0000255|HAMAP-Rule:MF_03170}

Target/Specificity
This AK4 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 119-153 amino acids from the Central region of human AK4.

Dilution
WB~~1:1000
IF~~1:25
IHC-P~~1:25

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
AK4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

AK4 Antibody (Center) - Protein Information

Name AK4 {ECO:0000255|HAMAP-Rule:MF_03170}

Function Involved in maintaining the homeostasis of cellular nucleotides by catalyzing the interconversion of nucleoside phosphates (PubMed:19073142, PubMed:19766732, PubMed:23416111, PubMed:24767988). Efficiently phosphorylates AMP and dAMP using ATP as phosphate donor, but phosphorylates only AMP when using GTP as phosphate donor (PubMed:19073142, PubMed:19766732, PubMed:23416111). Also displays broad nucleoside diphosphate kinase activity (PubMed:19073142, PubMed:19766732, PubMed:23416111). Plays a role in controlling cellular ATP levels by regulating phosphorylation and activation of the energy sensor protein kinase AMPK (PubMed:24767988, PubMed:26980435). Plays a protective role in the cellular response to oxidative stress (PubMed:19130895, PubMed:23474458, PubMed:26980435).

Cellular Location
Mitochondrion matrix {ECO:0000255|HAMAP- Rule:MF_03170, ECO:0000269|PubMed:11485571, ECO:0000269|PubMed:19766732, ECO:0000269|PubMed:26980435}

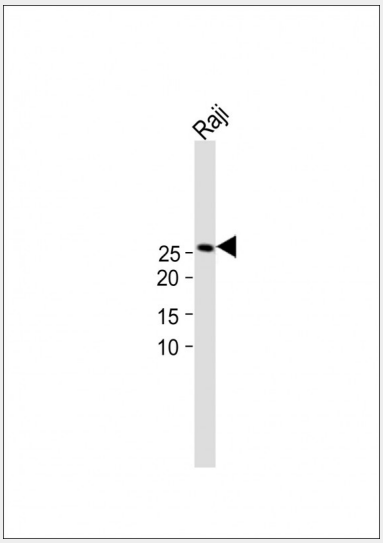
Tissue Location
Highly expressed in kidney, moderately expressed in heart and liver and weakly expressed in brain

AK4 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

AK4 Antibody (Center) - Images



All lanes : Anti-AK4 Antibody (Center)at 1:1000 dilution + Raji whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at

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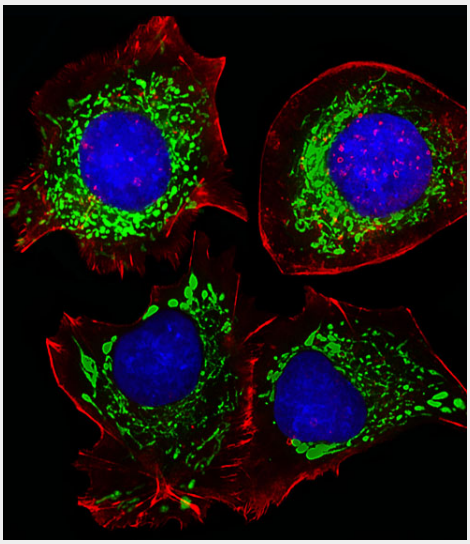
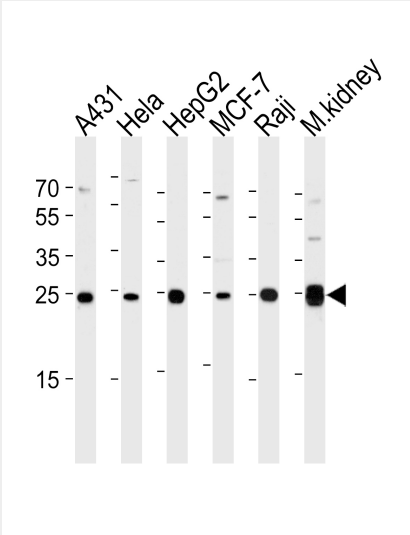
1/15000 dilution. Observed band size : 26kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Fluorescent image of HepG2 cells stained with AK4 Antibody (Center)(Cat#AP20571a). AP20571a was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). DAPI was used to stain the cell nuclear (blue). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



Western blot analysis of lysates from A431, Hela, HepG2, MCF-7, Raji cell line and mouse kidney tissue lysate (from left to right), using AK4 Antibody (Center)(Cat. #AP20571a). AP20571a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

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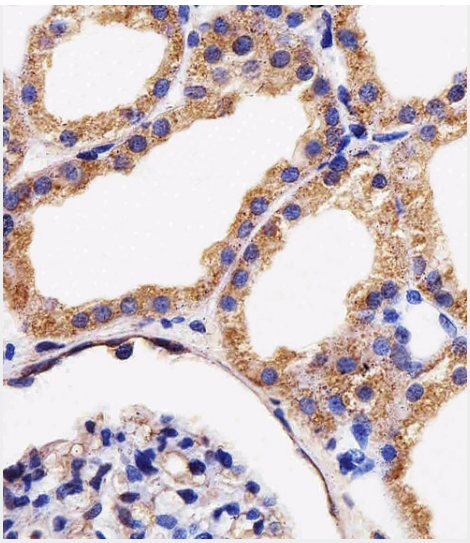
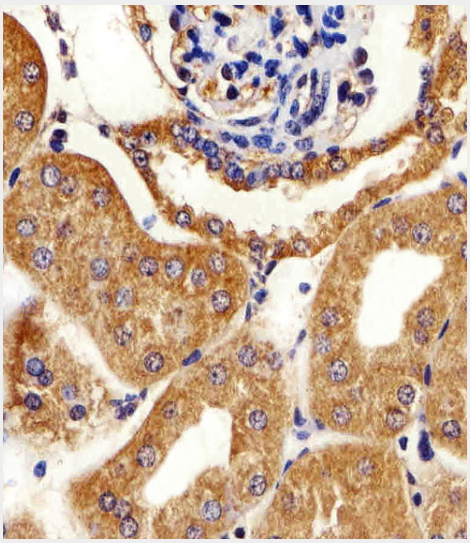


Immunohistochemical analysis of paraffin-embedded H.kidney section using AK4 Antibody (Center)(Cat#AP20571a). AP20571a was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.



Immunohistochemical analysis of paraffin-embedded M.kidney section using AK4 Antibody (Center)(Cat#AP20571a). AP20571a was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

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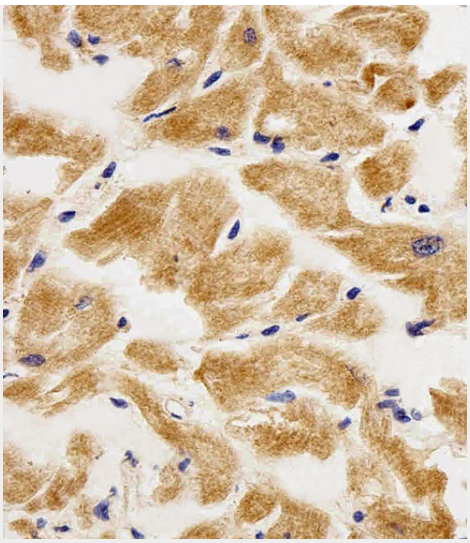

Immunohistochemical analysis of paraffin-embedded H.heart section using AK4 Antibody (Center)(Cat#AP20571a). AP20571a was diluted at 1:25 dilution. A peroxidase-conjugated goat anti-rabbit IgG at 1:400 dilution was used as the secondary antibody, followed by DAB staining.

AK4 Antibody (Center) - Background

Involved in maintaining the homeostasis of cellular nucleotides by catalyzing the interconversion of nucleoside phosphates. Efficiently phosphorylates AMP and dAMP using ATP as phosphate donor, but phosphorylates only AMP when using GTP as phosphate donor. Also displays broad nucleoside diphosphate kinase activity.

AK4 Antibody (Center) - References

Xu G.,et al.Genomics 13:537-542(1992).
Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.

AK4 Antibody (Center) - Citations

- MiR-199a-3p affects the multi-chemoresistance of osteosarcoma through targeting AK4.