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AK3 Antibody (N-term F210)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8132c

Specification

AK3 Antibody (N-term F210) - Product Information

Application	**WB,E**
Primary Accession	P27144
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**25268**
Antigen Region	**23-53**

AK3 Antibody (N-term F210) - 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 AK3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 23-53 amino acids from the N-terminal region of human AK3.

Dilution
WB~~1:1000
E~~Use at an assay dependent concentration.

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
AK3 Antibody (N-term F210) is for research use only and not for use in diagnostic or therapeutic procedures.

AK3 Antibody (N-term F210) - Protein Information

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Name AK4 (HGNC:363)

Function Broad-specificity mitochondrial nucleoside phosphate kinase involved in cellular nucleotide homeostasis by catalyzing nucleoside- phosphate interconversions (PubMed:19073142, PubMed:19766732, PubMed:23416111, PubMed:24767988). Similar to other adenylate kinases, preferentially catalyzes the phosphorylation of the nucleoside monophosphate AMP with ATP as phosphate donor to produce ADP (PubMed:19766732). Phosphorylates only AMP when using GTP as phosphate donor (PubMed:19766732). In vitro, can also catalyze the phosphorylation of CMP, dAMP and dCMP and use GTP as an alternate phosphate donor (PubMed:19766732, PubMed:23416111). Moreover, exhibits a diphosphate kinase activity, producing ATP, CTP, GTP, UTP, TTP, dATP, dCTP and dGTP from the corresponding diphosphate substrates with either ATP or GTP as phosphate donors (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}

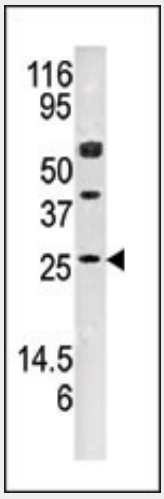
Tissue Location
Highly expressed in kidney, moderately expressed in heart and liver and weakly expressed in brain

AK3 Antibody (N-term F210) - 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

AK3 Antibody (N-term F210) - Images



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Western blot analysis of anti-AK3 Pab (Cat. #AP8132c) in mouse kidney tissue lysate (35ug/lane). AK3(arrow) was detected using the purified Pab.

AK3 Antibody (N-term F210) - Background

AK3 is a member of the adenylate kinase family of enzymes. This protein is localized to the mitochondrial matrix. Adenylate kinases regulate the adenine and guanine nucleotide compositions within a cell by catalyzing the reversible transfer of phosphate group among these nucleotides. Five isozymes of adenylate kinase have been identified in vertebrates. Expression of these isozymes is tissue-specific and developmentally regulated.

AK3 Antibody (N-term F210) - References

Biochem. J. 358 (PT 1), 225-232 (2001)
Eur. J. Biochem. 261(2):509-517 (1999).
Brain Res. Mol. Brain Res. 62(2):187-195 (1998).
Genomics 13(3):537-542 (1992).
Cytogenet. Cell Genet. 32 (1-4), 144-152 (1982).