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AK3 Antibody (C-term H38)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8132b

Specification

AK3 Antibody (C-term H38) - Product Information

Application	**IHC-P, WB,E**
Primary Accession	P27144
Other Accession	Q9WUS0, Q9WUR9
Reactivity	**Human, Mouse**
Predicted	**Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**25268**
Antigen Region	**195-223**

AK3 Antibody (C-term H38) - 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 195-223 amino acids from the C-terminal region of human AK3.

Dilution
IHC-P~~1:50~100
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 purified through a protein A column, followed by peptide affinity purification.

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 (C-term H38) is for research use only and not for use in diagnostic or therapeutic procedures.

AK3 Antibody (C-term H38) - Protein Information

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 (C-term H38) - 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 (C-term H38) - Images

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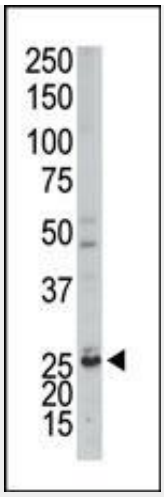
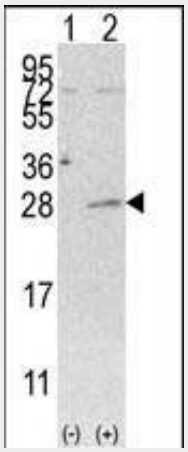
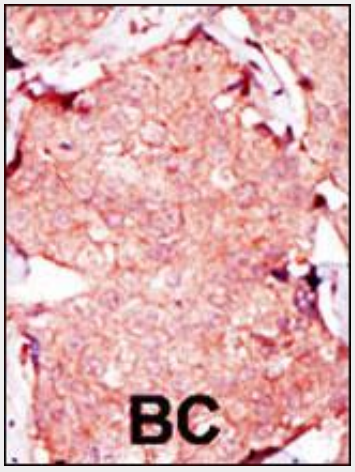


The anti-AK3 Pab (Cat. #AP8132b) is used in Western blot to detect AK3 in mouse kidney tissue lysate.



Western blot analysis of AK3 (arrow) using rabbit polyclonal AK3 Antibody (C-term H38) (Cat. #AP8132b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the AK3 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

AK3 Antibody (C-term H38) - Background

AK3 is a member of the adenylate kinase family of enzymes. The encoded 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 (C-term H38) - References

Van Rompay, A.R., et al., Eur. J. Biochem. 261(2):509-517 (1999).
Yoneda, T., et al., Brain Res. Mol. Brain Res. 62(2):187-195 (1998).
Xu, G., et al., Genomics 13(3):537-542 (1992).
Robson, E.B., et al., Cytogenet. Cell Genet. 32 (1-4), 144-152 (1982).