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AK2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8134a

Product Information

Application	WB, IHC-P, E
Primary Accession	P54819
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	26478
Antigen Region	1-30

Additional Information

Gene ID	204
Other Names	Adenylate kinase 2, mitochondrial {ECO:0000255|HAMAP-Rule:MF_03168}, AK 2 {ECO:0000255|HAMAP-Rule:MF_03168}, 2743 {ECO:0000255|HAMAP-Rule:MF_03168}, ATP-AMP transphosphorylase 2 {ECO:0000255|HAMAP-Rule:MF_03168}, ATP:AMP phosphotransferase {ECO:0000255|HAMAP-Rule:MF_03168}, Adenylate monophosphate kinase {ECO:0000255|HAMAP-Rule:MF_03168}, Adenylate kinase 2, mitochondrial, N-terminally processed {ECO:0000255|HAMAP-Rule:MF_03168}, AK2 {ECO:0000255|HAMAP-Rule:MF_03168}, ADK2
Target/Specificity	This AK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human AK2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	AK2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AK2 {ECO:0000255|HAMAP-Rule:MF_03168}

Synonyms	ADK2
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.
Cellular Location	Mitochondrion intermembrane space {ECO:0000255|HAMAP-Rule:MF_03168}
Tissue Location	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)

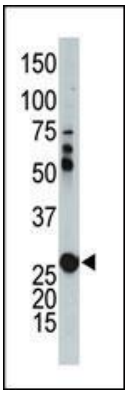
Background

Adenylate kinases are involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate groups among adenine nucleotides. Five isozymes of adenylate kinase have been identified in vertebrates. Expression of these isozymes is tissue-specific and developmentally regulated. Isozyme 2 is localized in the mitochondrial intermembrane space and may play a role in apoptosis.

References

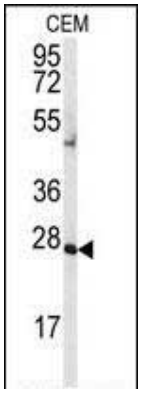
Noma, T., et al., Biochim. Biophys. Acta 1395(1):34-39 (1998).
Lee, Y., et al., J. Biochem. 123(1):47-54 (1998).
Lee, Y., et al., Biochem. Mol. Biol. Int. 39(4):833-842 (1996).
Bruns, G.A., et al., Biochem. Genet. 15 (5-6), 477-486 (1977).

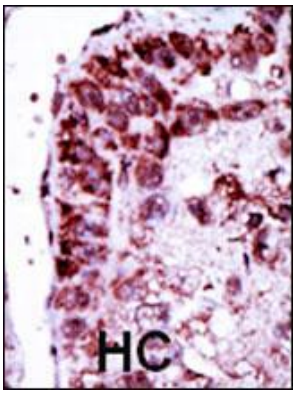
Images



The anti-AK2 Pab (Cat. #AP8134a) is used in Western blot to detect AK2 in mouse kidney tissue lysate.

Western blot analysis of anti-AK2 Antibody (N-term) (Cat.#AP8134a) in CEM cell line lysates (35ug/lane). AK2(arrow) was detected using the purified Pab.





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

Citations

- The mitochondrially-localized nucleoside diphosphate kinase D (NME4) is a novel metastasis suppressor
- Impairment of F1F0-ATPase, adenine nucleotide translocator and adenylate kinase causes mitochondrial energy deficit in human skin fibroblasts with chromosome 21 trisomy.