10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AK1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8160a

Product Information

Application	WB, E
Primary Accession	P00568
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB4079/4080
Calculated MW	21635
Antigen Region	30-59

Additional Information

Gene ID	203
Other Names	Adenylate kinase isoenzyme 1 {ECO:0000255|HAMAP-Rule:MF_03171}, AK 1 {ECO:0000255|HAMAP-Rule:MF_03171}, 2743 {ECO:0000255|HAMAP-Rule:MF_03171}, 2746 {ECO:0000255|HAMAP-Rule:MF_03171}, ATP-AMP transphosphorylase 1 {ECO:0000255|HAMAP-Rule:MF_03171}, ATP:AMP phosphotransferase {ECO:0000255|HAMAP-Rule:MF_03171}, Adenylate monophosphate kinase {ECO:0000255|HAMAP-Rule:MF_03171}, Myokinase {ECO:0000255|HAMAP-Rule:MF_03171}, AK1 {ECO:0000255|HAMAP-Rule:MF_03171}
Target/Specificity	This AK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 30-59 amino acids from the N-terminal region of human AK1.
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	AK1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AK1 {ECO:0000255|HAMAP-Rule:MF_03171, ECO:0000312|HGNC:HGNC:361}
Function	Catalyzes the reversible transfer of the terminal phosphate group between ATP and AMP. Also displays broad nucleoside diphosphate kinase activity. Plays an important role in cellular energy homeostasis and in adenine nucleotide metabolism (By similarity) (PubMed:21080915, PubMed:23416111, PubMed:2542324). Also catalyzes at a very low rate the synthesis of thiamine triphosphate (ThTP) from thiamine diphosphate (ThDP) and ADP (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:P05081}.

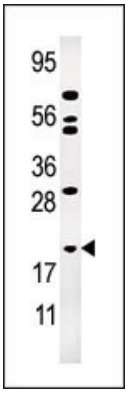
Background

Adenylate kinase is an enzyme involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate group among adinine nucleotides. Three isozymes of adenylate kinase have been identified in vertebrates, adenylate isozyme 1 (AK1), 2 (AK2) and 3 (AK3). AK1 is found in the cytosol of skeletal muscle, brain and erythrocytes, whereas AK2 and AK3 are found in the mitochondria of other tissues including liver and heart. AK1 was identified because of its association with a rare genetic disorder causing nonspherocytic hemolytic anemia where a mutation in the AK1 gene was found to reduce the catalytic activity of the enzyme.

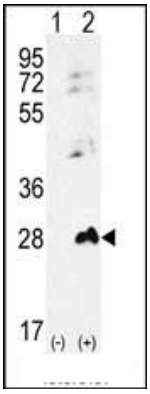
References

Corrons, J.L., et al., Blood 102(1):353-356 (2003).
Toren, A., et al., Br. J. Haematol. 87(2):376-380 (1994).
Zuffardi, O., et al., Hum. Genet. 82(1):17-19 (1989).
Matsuura, S., et al., J. Biol. Chem. 264(17):10148-10155 (1989).
Miwa, S., et al., Am. J. Hematol. 14(4):325-333 (1983).

Images



Western blot analysis of anti-AK1 Pab (Cat. #AP8160a) in Jurkat cell line lysate (35ug/lane). AK1(arrow) was detected using the purified Pab.



Western blot analysis of AK1 (arrow) using rabbit polyclonal AK1 Antibody (S45) (Cat. #AP8160a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the AK1 gene.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.