

**Anti-AK2 Picoband Antibody**  
**Catalog # ABO11652****Specification****Anti-AK2 Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P54819</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Adenylate kinase 2, mitochondrial(AK2) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-AK2 Picoband Antibody - 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}, 2.7.4.3 {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

**Calculated MW**

26478 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Mouse, Rat, By Heat<br> <br>Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat<br>

**Subcellular Localization**

Mitochondrion intermembrane space .

**Tissue Specificity**

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). .

**Protein Name**

Adenylate kinase 2, mitochondrial

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>N.

**Immunogen**

E. coli-derived human AK2 recombinant protein (Position: E161-I239). Human AK2 shares 93.7% and 93% amino acid (aa) sequence identity with mouse and rat AK2, respectively.

**Purification**

Immunogen affinity purified.

**Cross Reactivity**

No cross reactivity with other proteins

**Storage**

**At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

**Anti-AK2 Picoband Antibody - 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)

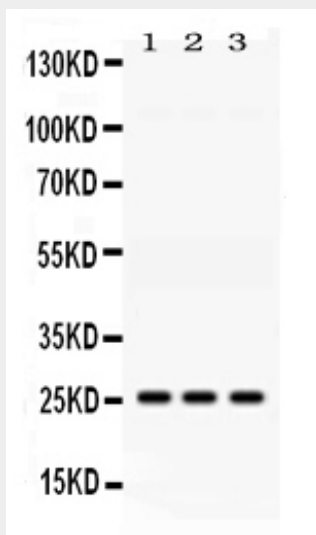
**Anti-AK2 Picoband Antibody - Protocols**

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

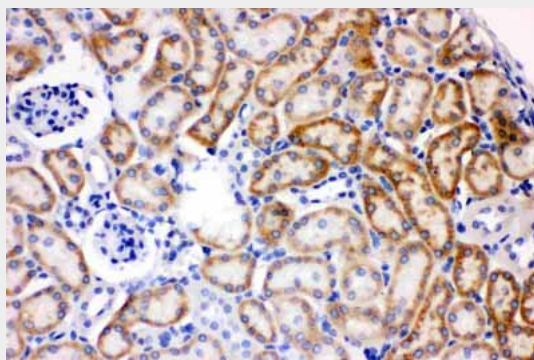
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

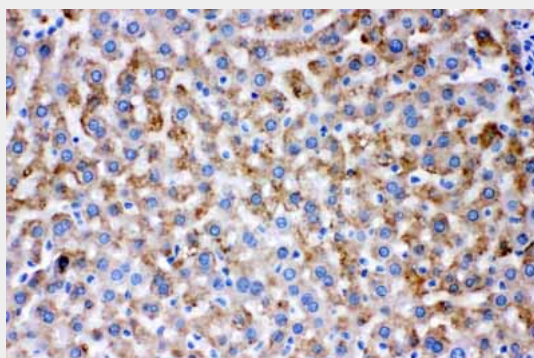
#### Anti-AK2 Picoband Antibody - Images



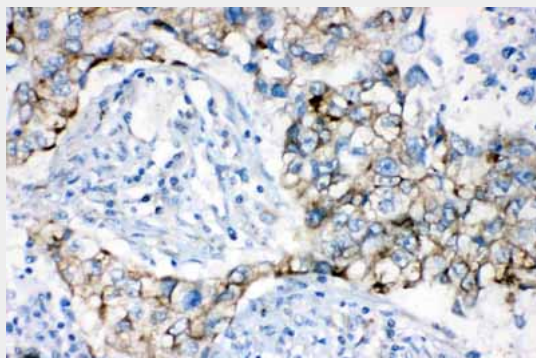
Western blot analysis of AK2 expression in rat liver extract (lane 1), mouse kidney extract (lane 2) and HELA whole cell lysates (lane 3). AK2 at 26KD was detected using rabbit anti- AK2 Antigen Affinity purified polyclonal antibody (Catalog # ABO11652) at 0.5  $\mu$ g/mL. The blot was developed using chemiluminescence (ECL) method .



AK2 was detected in paraffin-embedded sections of mouse kidney tissues using rabbit anti- AK2 Antigen Affinity purified polyclonal antibody (Catalog # ABO11652) at 1  $\mu$ g/mL. The immunohistochemical section was developed using SABC method .



AK2 was detected in paraffin-embedded sections of rat liver tissues using rabbit anti- AK2 Antigen Affinity purified polyclonal antibody (Catalog # ABO11652) at 1 µg/mL. The immunohistochemical section was developed using SABC method .



AK2 was detected in paraffin-embedded sections of human lung cancer tissues using rabbit anti- AK2 Antigen Affinity purified polyclonal antibody (Catalog # ABO11652) at 1 µg/mL. The immunohistochemical section was developed using SABC method .

#### **Anti-AK2 Picoband Antibody - Background**

Adenylate kinase 2 is an enzyme encoded in humans by the AK2 gene. The AK2 protein is found in the intermembrane space of the mitochondrion. Adenylate kinases are involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate groups among adenine nucleotides. Three isozymes of adenylate kinase, namely 1, 2, and 3, have been identified in vertebrates; this gene encodes isozyme 2. 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. Mutations in this gene are the cause of reticular dysgenesis. Alternate splicing results in multiple transcript variants. Pseudogenes of this gene are found on chromosomes 1 and 2.