

Product datasheet

Recombinant human AK2 protein ab167993

1 Image

Description

<b>Product name</b>	Recombinant human AK2 protein
<b>Biological activity</b>	Specific activity: > 1.5 units/ml. One unit will convert 2.0 µmoles of ADP to ATP + AMP per minute at pH 7.5 at 25°C.
<b>Purity</b>	> 95 % SDS-PAGE.
<b>Endotoxin level</b>	< 1.000 Eu/µg
<b>Expression system</b>	Escherichia coli
<b>Accession</b>	<a href="#">P54819</a>
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	<p>MGSSHHHHHH SSGLVPRGSH MAPSVPAEEP  EYPKGIRAVL LGPPGAGKGT QAPRLAENFC  VCHLATGDML RAMVASGSEL GKCLKATMDA  GKLVSDMVV ELIEKNLETP LCKNGFLLDG  FPRTVRQAEM LDDLMEKRKE KLDSVIEFSI PDSLLIRRI  GRLIHPKSGR SYHEEFNPPK EPMKDDITGE  PLIRRSDDNE KALKIRLQAY HTQTPLIEY YRKRGIHSAI  DASQTPDVVF ASILAAFSKA TCKDLVMFI</p>
<b>Predicted molecular weight</b>	29 kDa including tags
<b>Amino acids</b>	1 to 239
<b>Tags</b>	His tag N-Terminus

Specifications

Our [Abpromise guarantee](#) covers the use of **ab167993** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	SDS-PAGE Functional Studies
<b>Form</b>	Liquid

## Preparation and Storage

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### Stability and Storage

Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

pH: 7.50

Constituents: 0.08% DTT, 0.32% Tris HCl, 20% Glycerol

This product is an active protein and may elicit a biological response in vivo, handle with caution.

## General Info

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### Function

Catalyzes the reversible transfer of the terminal phosphate group between ATP and AMP. This small ubiquitous enzyme involved in energy metabolism and nucleotide synthesis that is essential for maintenance and cell growth. Plays a key role in hematopoiesis.

### 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).

### Involvement in disease

Defects in AK2 are the cause of reticular dysgenesis (RDYS) [MIM:267500]; also known as aleukocytosis. RDYS is the most severe form of inborn severe combined immunodeficiencies (SCID) and is characterized by absence of granulocytes and almost complete deficiency of lymphocytes in peripheral blood, hypoplasia of the thymus and secondary lymphoid organs, and lack of innate and adaptive humoral and cellular immune functions, leading to fatal septicemia within days after birth. In bone marrow of individuals with reticular dysgenesis, myeloid differentiation is blocked at the promyelocytic stage, whereas erythro- and megakaryocytic maturation is generally normal. In addition, affected newborns have bilateral sensorineural deafness. Defects may be due to its absence in leukocytes and inner ear, in which its absence can not be compensated by AK1.

### Sequence similarities

Belongs to the adenylate kinase family. AK2 subfamily.

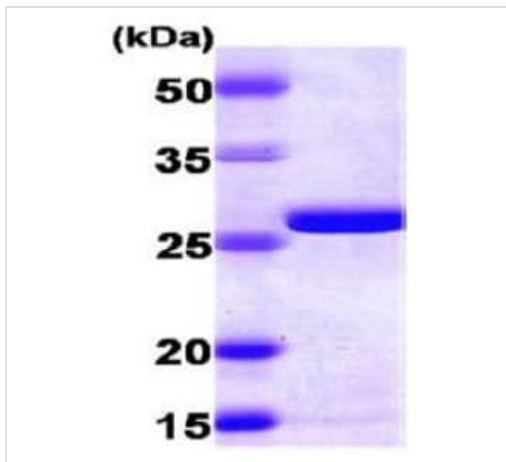
### Cellular localization

Mitochondrion intermembrane space.

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## Images

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15% SDS-PAGE analysis of ab167993 (3 µg).

SDS-PAGE - Recombinant human AK2 protein  
(ab167993)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
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