abcam

Product datasheet

Recombinant human AK2 protein ab167993

1 Image

Description

Product name	Recombinant human AK2 protein
Biological activity	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.
Purity	> 95 % SDS-PAGE.
Endotoxin level	< 1.000 Eu/µg
Expression system	Escherichia coli
Accession	P54819
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MGSSHHHHHH SSGLVPRGSH MAPSVPAAEP EYPKGIRAVL LGPPGAGKGT QAPRLAENFC VCHLATGDML RAMVASGSEL GKKLKATMDA GKLVSDEMVV ELIEKNLETP LCKNGFLLDG FPRTVRQAEM LDDLMEKRKE KLDSVIEFSI PDSLLIRRIT GRLIHPKSGR SYHEEFNPPK EPMKDDITGE PLIRRSDDNE KALKIRLQAY HTQTTPLIEY YRKRGIHSAI DASQTPDVVF ASILAAFSKA TCKDLVMFI
Predicted molecular weight	29 kDa including tags
Amino acids	1 to 239
Tags	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.

Applications	SDS-PAGE
	Functional Studies
Form	Liquid

Additional notes	This product is manufactured by BioVision, an Abcam company and was previously called 6386 Human Recombinant AK2. 6386-100 is the same size as the 100 µg size of ab167993.

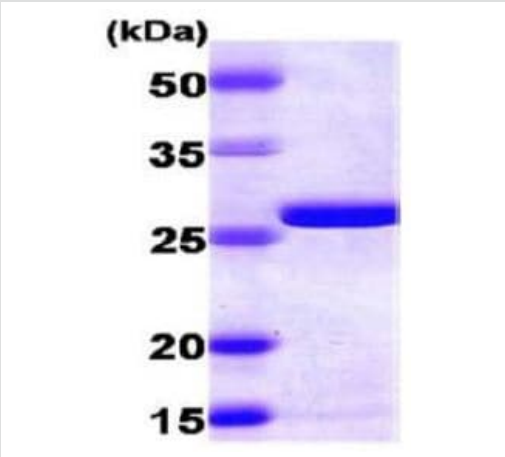
Preparation and Storage

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

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.

Images



SDS-PAGE - Recombinant human AK2 protein (ab167993)

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

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

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- 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
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

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