# **PRODUCT INFORMATION**

**Expression system** E.coli

**Domain** 1-194aa

**UniProt No.** P00568

NCBI Accession No. NP\_000467

## **Alternative Names**

Adenylate kinase isoenzyme1, ATP-AMP transphosphorylase 1, Myokinase, Adenylate kinase 1, ATP:AMP phosphotransferase, Adenylate monophosphate kinase

# **PRODUCT SPECIFICATION**

## **Molecular Weight**

23.7 kDa (214aa) confirmed by MALDI-TOF

**Concentration** 1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 7.5) containing 10% glycerol

**Purity** > 95% by SDS-PAGE

## **Biological Activity**

Specific activity: > 600unit/mg. One unit will convert 2.0 umoles of ADP to ATP + AMP per minute at pH 7.5 at 37C.

### **Tag** His-Tag

**Application** SDS-PAGE, Enzyme Activity

### **Storage Condition**

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

## BACKGROUND

## Description

AK1 is an enzyme involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of the terminal phosphate group between ATP and AMP. This protein is found in the cytosol of



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skeletal muscle, brain and erythrocytes. It is a small ubiquitous enzyme which is essential for maintenance and cell growth. Defects in AK1 are the cause of a form of hemolytic anemia. Recombinant human AK1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography.

### **Amino acid Sequence**

MGSSHHHHHH SSGLVPRGSH MEEKLKKTKI IFVVGGPGSG KGTQCEKIVQ KYGYTHLSTG DLLRSEVSSG SARGKKLSEI MEKGQLVPLE TVLDMLRDAM VAKVNTSKGF LIDGYPREVQ QGEEFERRIG QPTLLLYVDA GPETMTQRLL KRGETSGRVD DNEETIKKRL ETYYKATEPV IAFYEKRGIV RKVNAEGSVD SVFSQVCTHL DALK

### **General References**

Terzic A., et al. (2007) J Biol Chem. 282(43):31366-72. Morelli A., et al (2007) Curr Eye Res. 32(3):249-57.

## DATA

### SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.