

Rat AK1 / Adenylate kinase 1 Protein (His Tag)

Catalog Number: 80583-R07E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

AK1, Adenylate kinase 1

Protein Construction:

A DNA sequence encoding the rat Ak1 (NP_077325.2) (Met1-Lys194) was expressed with a polyhistidine tag at the N-terminus.

Source: Rat

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant rat Ak1 consists 212 amino acids and predicts a molecular mass of 23.8 kDa.

Formulation:

Lyophilized from sterile PBS, 10 % glycerol.

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

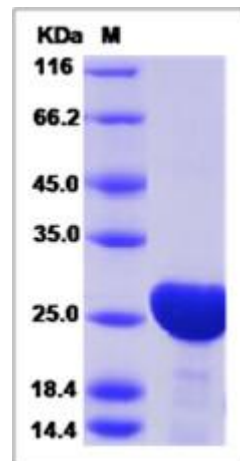
Usage Guide

Storage:

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Adenylate kinase 1 (AK1) belongs to the Adenylate kinase family that contains three isozymes: AK1, AK2 and AK3. Adenylate kinases are involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate groups among adenine nucleotides. AK1 K has functions in delivering AMP signals to metabolic sensors. It facilitates decoding of cellular information by catalyzing nucleotide exchange in the intimate "sensing zone" of metabolic sensors. With presence of AK1 in mitochondrial and myofibrillar compartments, the energy of two high-energy phosphoryls, γ - and β - phosphoryls in the ATP molecule is available. AK1 can read the cellular energy state, communicates AMP signals to metabolic sensors. This kinase is able to convey information about the overall energy balance. AK1 is related with several diseases, including nucleoside diphosphate kinase deficiency, hemolytic anemia, AK1 and post-ischemic coronary reflow and AK2 deficiency.

References

1. Lu Q. et al., 1996, Proc Natl Acad Sci. 93 (12): 5720-5.
2. Dzeja P. et al., 2009, Int J Mol Sci. 10 (4): 1729-72.
3. Lagresle-Peyrou C. et al., 2008, Nature Genetics. 41: 106-11.