

## Adenylate Kinase 1 Protein, Rat, Recombinant (His)

### General Information

Synonyms:	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. Predicted N terminal: Met
Species:	Rat
Expression Host:	E. coli
Accession:	A6JU73
Molecular Weight:	23.8 kDa (predicted)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, 10% glycerol. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

The adenylate kinase (AK) isoforms network plays an important role in the intracellular energy transfer processes, the maintenance of energy homeostasis, and it is a major player in AMP metabolic signaling circuits in some highly-differentiated cells. Three other biomarkers (AK1, CLIC1, and SOD1) were significantly increased in both adenoma and early colorectal cancer patient plasma samples and in plasma from colorectal cancer mouse models at preclinical stages compared with controls. Which can contribute to the detection of early-stage

colorectal cancer and adenomas.

**Reference**

Lu Q, et al. (1996) Adenylate kinase complements nucleoside diphosphate kinase deficiency in nucleotide metabolism. Proc Natl Acad Sci. 93 (12): 5720-5.

Dzeja P, et al. (2009) Adenylate kinase and AMP signaling networks: Metabolic monitoring, signal communication and body energy sensing. Int J Mol Sci. 10 (4): 1729-72.

Lagresle-Peyrou C, et al. (2008) Human adenylate kinase 2 deficiency causes a profound hematopoietic defect associated with sensorineural deafness. Nature Genetics. 41: 106 - 11.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 34 Washington Street, Wellesley Hills, MA 02481