AK3 Protein, Human (Myc, His)

Cat. No.:	HY-P71645
Synonyms:	Adenylate kinase 3 alpha-like 1; Adenylate kinase 3; Adenylate kinase 3, formerly; adenylate kinase 6, adenylate kinase 3 like 1; AK 3; mitochondrial
Species:	Human
Source:	E. coli
Accession:	Q9UIJ7 (1M-227P)
Gene ID:	50808
Molecular Weight:	Approximately 32.6 kDa

PROPERTIES

AA Sequence	M G A S A R L L R A V I M G A P G S G K G T V S S R I T T H F E L K H L S S G D L L R D N M L R G T E I G V L A K A F I D Q G K L I P D D V M T R L A L H E L K N L T Q Y S W L L D G F P R T L P Q A E A L D R A Y Q I D T V I N L N V P F E V I K Q R L T A R W I H P A S G R V Y N I E F N P P K T V G I D D L T G E P L I Q R E D D K P E T V I K R L K A Y E D Q T K P V L E Y Y Q K K G V L E T F S G T E T N K I W P Y V Y A F L Q T K V P Q R S Q K A S V T P
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Adenylate kinase (hereinafter referred to as AK) catalyzes a reversible high-energy phosphoryl transfer reaction between adenine nucleotides. So far, six AK isozymes, AK1, AK2, AK3, AK4, AK5, and AK6, were identified. AK3 is expressed in all tissues except for red blood cells indicating that AK3 gene is a housekeeping-type gene. AK3 catalyzes 1 GDP or ADP molecule formation or the reverse reaction using GTP, not ATP, as a substrate for phosphate donation. This AK3 generates GDP and ADP using GTP produced by phosphorylation in the citric acid cycle at substrate level and AMP that exists in the

matrix, respectively, and the generated GDP is utilizedin the next cycle of the citric acid cycle. while the ADP is utilized as a substrate of mitochondrial ATP synthetase[1].

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