

Human AK2 / Adenylate kinase 2 Protein (His & GST Tag)

Catalog Number: 13146-H20B



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Biological Solution Specialist

General Information

Gene Name Synonym:

ADK2; AK2; Ak-2; D4Ertd220e

Protein Construction:

A DNA sequence encoding the human AK2 isoform 1 (P54819-1) (Met 1-Ile 239) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Kinase activity untested

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

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

Predicted N terminal: Met

Molecular Mass:

The recombinant human AK2/GST chimera consists of 476 amino acids and has a calculated molecular mass of 54.3 kDa. It migrates as an approximately 50 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 8.0, 10% gly, 3mM DTT

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 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:

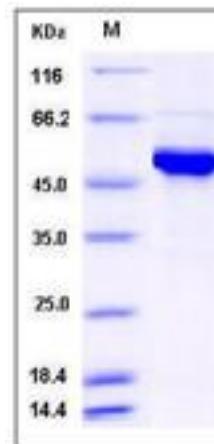
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Adenylate kinase 2 (AK2) 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. Adenylate kinase2 (AK2) is expressed in mitochondrial intermembrane space. It may play a role in apoptosis. It has been demonstrated that in apoptotic cells AK2 was translocated into the cytosol concomitantly with cytochrome C. Mutations in this gene are the cause of reticular dysgenesis. These mutations result in absent or strongly decreased protein expression. It has been also established that AK2 is specifically expressed in the stria vascularis region of the inner ear, which provides an explanation of the sensorineural deafness in these individuals.

References

1. 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.
2. Bruns GA, *et al.* (1977) Adenylate kinase 2, a mitochondrial enzyme. *Biochem Genet*. 15 (5-6): 477-86.
3. Khler C, *et al.* (1999) Release of adenylate kinase 2 from the mitochondrial intermembrane space during apoptosis. *FEBS Lett*. 447 (1): 10-2.

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