

Product datasheet for **RC209974**

AK2 (NM_001625) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	AK2 (NM_001625) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	AK2
Synonyms:	ADK2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC209974 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCTCCAGCGTGCCAGCGGCAGAACCCGAGTATCCTAAAGGCATCCGGGCCGTGCTGCTGGGGCCTC
CCGGGGCCGGTAAAGGGACCCAGGCACCCAGATTGGCTGAAAACCTTCTGTGTCTGCCATTTAGCTACTGG
GGACATGCTGAGGGCCATGGTGGCTTCTGGCTCAGAGCTAGGAAAAAGCTGAAGGCAACTATGGATGCT
GGGAAACTGGTGAGTGATGAAATGGTAGTGAGCTCATTGAGAAGAATTTGGAGACCCCTTGTGCAAAA
ATGTTTTTCTTGGATGGCTTCCCTCGGACTGTGAGGCAGGCAGAAATGCTCGATGACCTCATGGAGAA
GAGGAAAGAGAAGCTTGATTCTGTGATTGAATTCAGCATCCAGACTCTCTGCTGATCCGAAGAATCACA
GGAAGGCTGATTCACCCCAAGAGTGCCGTTCCCTACCACGAGGAGTTCAACCCTCCAAAAGGCCCATGA
AAGATGACATCACCGGGGAACCCCTTGATCCGTCGATCAGATGATAATGAAAAGGCCTTGAAAATCCGCCT
GCAAGCTACCACACTCAACCACCCCACTCATAGAGTACTACAGGAAACGGGGATCCACTCCGCCATC
GATGCATCCAGACCCCGATGTCGTGTTGCAAGCATCTAGCAGCCTTCTCCAAGCCACATGTAAG
ACTTGTTATGTTTATC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC209974 protein sequence
 Red=Cloning site Green=Tags(s)

MAPSVPAAEPEYPKGIRAVLLGPPGAGKGTQAPRLAENFCVCHLATGDMLRAMVASGSELGKKLKATMDA
 GKLVSDEMVVLEIEKNLETPLCKNGFLLDGFPRTVRQAEMLDLMEKRKEKLDVIEFSIPDSSLIRRI
 TGRLLIHPKSGRSYHEEFNPPKPKMDDITGEPLIRRSDDNEKALKIRLQAYHTQTTPLEIYYRKRGIHSAI
 DASQTPDVVFASILAASFATCKDLVMI

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6547_a05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_001625

ORF Size: 717 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_001625.4](#)

RefSeq Size: 2759 bp

RefSeq ORF: 720 bp

Locus ID: 204

UniProt ID: [P54819](#)

Cytogenetics: 1p35.1

Domains: ADK, ADK_lid

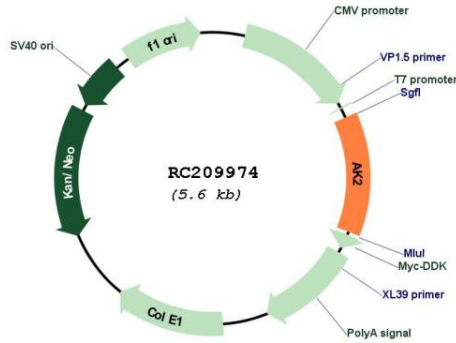
Protein Families: Druggable Genome

Protein Pathways: Metabolic pathways, Purine metabolism

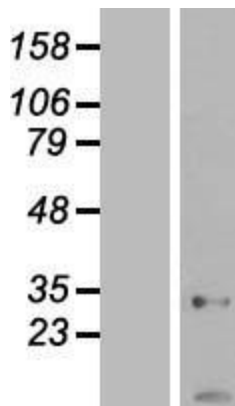
MW: 26.5 kDa

Gene Summary: Adenylate kinases are involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate groups among adenine nucleotides. Three isozymes of adenylate kinase, namely 1, 2, and 3, have been identified in vertebrates; this gene encodes isozyme 2. Expression of these isozymes is tissue-specific and developmentally regulated. Isozyme 2 is localized in the mitochondrial intermembrane space and may play a role in apoptosis. Mutations in this gene are the cause of reticular dysgenesis. Alternate splicing results in multiple transcript variants. Pseudogenes of this gene are found on chromosomes 1 and 2.[provided by RefSeq, Nov 2010]

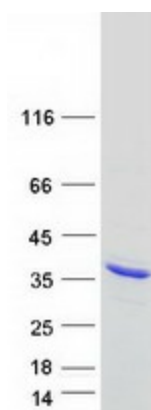
Product images:



Circular map for RC209974



Western blot validation of overexpression lysate (Cat# [LY419835]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209974 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AK2 protein (Cat# [TP309974]). The protein was produced from HEK293T cells transfected with AK2 cDNA clone (Cat# RC209974) using MegaTran 2.0 (Cat# [TT210002]).