

## Product datasheet for **RC222241**

### Adenylate kinase 5 (AK5) (NM\_174858) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Adenylate kinase 5 (AK5) (NM_174858) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Adenylate kinase 5
Synonyms:	AK6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC222241 representing NM\_174858  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGAACACCAACGATGCCAAGGAGTATCTGGCCCGAGGGAAATCCCTCAGCTTTTTGAGAGCCTTTTGA  
 ATGGACTGATGTGTTCTAAGCCCGAAGATCCAGTAGAATACTTGGAAAGTTGTTTACAAAAAGTAAAGGA  
 ACTGGGTGGCTGTGACAAGGTGAAATGGGATACATTTGTAAAGCCAGGAAAAGAAGACCTTACCTCCACTA  
 AATGGAGGACAGTCACGGAGATCCTTTCTAAGAAATGTAATGCCTGAAAACCTCAAACCTTTCCATATCGGC  
 GGTATGACCGGCTCCCTCCAATCCATCAATTCTCCATAGAAAGTGACACGGATCTCTGAGACTGCGGA  
 GTTGATTGAGGAGTATGAGGTTTTGATCCTACCAGACCTCGACCAAAAATCATTCTTGTATAGGTGGT  
 CCAGGAAGTGAAAGGTAATCAGAGTTTGAATTTGCAGAACGATATGGATTCCAATACATTTCTGTGG  
 GAGAATTATTAAGAAAGAAGATCCACAGTACCAGCAGCAATAGGAAATGGAGTCTTATTGCCAAGATAAT  
 TACAACCTGGAGAATTGGCCCCACAGGAAACAACAATTACAGAGATAAAACAAAAATTTGATGCAAATACCT  
 GATGAAGAGGGCATTGTTATTGATGGATTTCCAAGAGATGTTGCCAGGCTCTATCTTTTGGAGACCAAA  
 TCTGTACCCCGATTTGGTGGTATTCTGGCTTGTGCTAATCAGAGACTCAAAGAAAGATTACTGAAGCG  
 TGCAGAACAGCAGGGCCGACCAGACGACAATGTAAGGCTACCCAAAGGAGACTAATGAACCTTCAAGCAG  
 AATGCTGCTCCATTGGTTAAATACTTCCAGGAAAAGGGGCTCATCATGACATTTGATGCCGACCGCGATG  
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 AGGTTCAAGTGACCTTGATCCTTCGATGATATTGGACTGGAGAGATCATTGATACAGGATCTGATTAT  
 GAAGATCAGGGTGATGACCAGTAAATGTATTTGGAGAGGACACTATGGGAGTTTCATGGAAGATTTGA  
 GAAAGTGTAATAATTTTTCATAAATGGTGGCTGGCTCTGGCAAAGGCACACAGTGAAAAGATGGT  
 GGAAAAATATGGATTTACACATCTCTCAACTGGCGAGCTCTGCGTGAGGAACTGGCATCAGAATCTGAA  
 AGAAGCAAATTGATCAGAGACATTATGGAACGTGGAGACCTGGTCCCTCAGGCATCGTTTTGGAGCTCC  
 TGAAGGAGGCCATGGTGGCCAGCCTCGGGGACACCAGGGGCTTCTGATTGACGGCTATCCTCGGGAGGT  
 GAAGCAAGGGGAAGGTTTCGGACGCAGGATTGGAGACCCACAGTTGGTGTCTGTATGGACTGCTCGGCA  
 GACACCATGACCAACCGCCTTCTCAAAGGAGCCGGAGCAGCCTGCCTGTGGACGACACCACCAAGACCA  
 TCGCCAAGCGCTAGAAGCCTACTACCGAGCGTCCATCCCGTGATCGCCTACTACGAGACAAAAACACA  
 GCTACACAAGATAAATGCAGAGGGAACACCAGAGGACGTTTTTCTCAACTCTGCACAGCTATTGACTCT  
 ATTTTC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC222241 representing NM\_174858  
 Red=Cloning site Green=Tags(s)

MNTNDAKEYLARREIPQLFESLLNGLMCSKPEDPVEYLESCLQKVKELGGCDKVKWDTFVSQEKTLPLPL  
 NGGQSRRSFLRNVPENSFPYRRYDRLPPIHQFSIESDIDLSETAELIEEYEVDPTRPRPKIILVIGG  
 PGSGKGTQSLKIAERYGFQYISVSELLRKKIHSTSSNRKWSLIAKIITTGELAPQETTITEIKQKLMQIP  
 DEEGIVIDGFPRDVAQALSFEDQICTPDLVVFLACANQRLKERLLKRAEQGRPDDNVKATQRRMLMFKQ  
 NAAPLVKYFQEKGLIMTFDADRDEDEVFYDISMAVDNKLFPNKEAAAGSSDLDPMSILDGTGEIIDTGSY  
 EDQDDQLNVFGEDTMGGFMEDLRKCKIIFIIGGPGSGKGTQCEKLVKYGFTHLSTGELLREELASESE  
 RSKLIRDIMERGDLVPSGIVLELLKEAMVASLGDTRGFLIDGYPREVKQGEFGRRIIDPQLVICMDCSA  
 DTMTNRLLRSRSSLPVDDTTKTIKRLEAYYRASIPVIAYYETKQLHKINAEGTPEDVFLQLCTAIDS  
 IF

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6119\\_h09.zip](https://cdn.origene.com/chromatograms/mk6119_h09.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_174858

**ORF Size:** 1686 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.

**RefSeq:** [NM\\_174858.3](#)

**RefSeq Size:** 3257 bp

**RefSeq ORF:** 1689 bp

**Locus ID:** 26289

**UniProt ID:** [Q9Y6K8](#)

**Cytogenetics:** 1p31.1

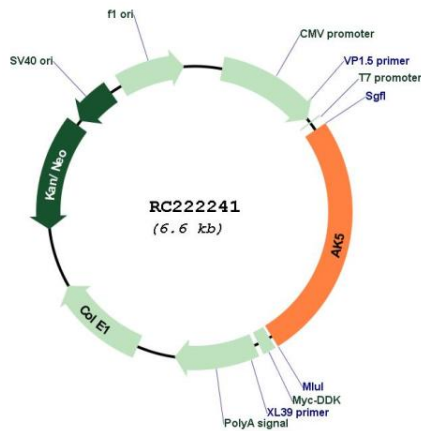
**Protein Families:** Druggable Genome

**Protein Pathways:** Metabolic pathways, Purine metabolism

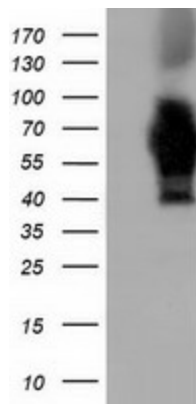
**MW:** 63.2 kDa

**Gene Summary:** This gene encodes a member of the adenylate kinase family, which is involved in regulating the adenine nucleotide composition within a cell by catalyzing the reversible transfer of phosphate groups among adenine nucleotides. This member is related to the UMP/CMP kinase of several species. It is located in the cytosol and expressed exclusively in brain. Alternatively spliced transcript variants encoding distinct isoforms have been identified for this gene. [provided by RefSeq, Jul 2008]

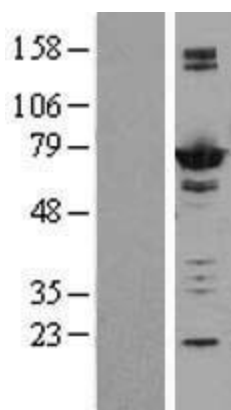
**Product images:**



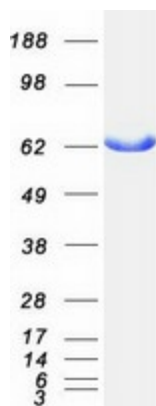
Circular map for RC222241



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AK5 (Cat# RC222241, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-AK5 (Cat# [TA501660]). Positive lysates [LY403569] (100ug) and [LC403569] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403569]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC222241 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AK5 protein (Cat# [TP322241]). The protein was produced from HEK293T cells transfected with AK5 cDNA clone (Cat# RC222241) using MegaTran 2.0 (Cat# [TT210002]).