

Product datasheet for RC215130

Adenylate Kinase 1 (AK1) (NM_000476) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Adenylate Kinase 1 (AK1) (NM_000476) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: AK1
Synonyms: HTL-S-58j
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RC215130 representing NM_000476
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGAAGAGAAGCTGAAGAAAACCAAGATCATCTTTGTGGTGGGTGGCCTGGCTCAGGGAAGGGCACCC
 AGTGTGAGAAGATCGTGCAGAAGTATGGCTACACCCACCTCTCCACGGGGACCTCCTGCGGTCCGAGGT
 CAGCTCAGGCTCGCCAGGGCAAGAAGCTGTCGAAATCATGGAGAAGGGCAGCTGGTCCACTGGAG
 ACAGTGTGGACATGCTCCGGGATGCCATGGTGGCCAAAGTCAATACTTCCAAAGGCTTCTGATTGATG
 GCTACCCGCGGGAGGTGCAGCAAGGAGAAGAGTTTGAGCGACGGATTGGACAGCCACACTGCTGCTGTA
 TGTGGACGCAGGCCCTGAGACCATGACCCAGCGGCTCTTGAACGTGGAGAGACCAGCGGGCGTGTGGAC
 GACAATGAGGAGACCATCAAAAAGCGGCTGGAGACCTATTACAAGGCCACAGAACCCGTCATCGCCTTCT
 ATGAGAAACGTGGCATTGTGCGCAAGGTCAACGCTGAGGGCTCCGTGGACAGTGTCTTCTCCAGGTCTG
 CACCCACCTGGACGCCCTAAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC215130 representing NM_000476
 Red=Cloning site Green=Tags(s)

MEEKLKKTKIIFVVGPGSGKGTQCEKIVQKYGYTHLSTGDLRSEVSSGSARGKKLSEIMEKGQLVPLE
 TVLDMLRDAMVAKVNTSKGFLIDGYPREVQQGEFERRIGQPTLLLYVDAGPETMTQRLKRGETSGRVD
 DNEETIKKRLITYKATEPVIAFYEKRGIVRKVNAEGSVDSVFSQVCTHLDALK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6036_a12.zip



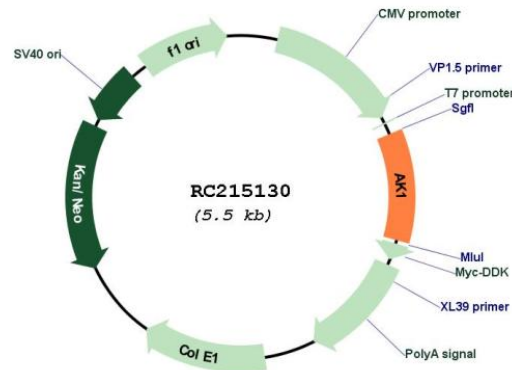
[View online »](#)

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



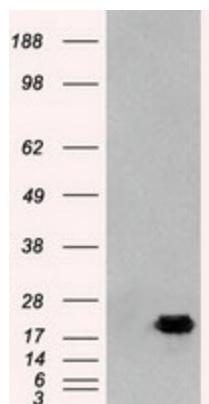
ACCN: NM_000476

ORF Size: 582 bp

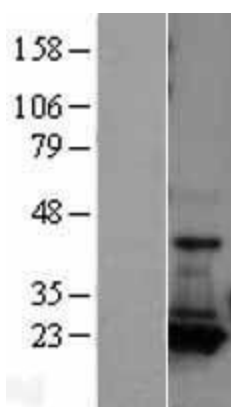
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

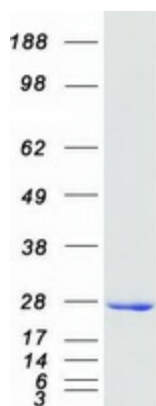
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none">1. Centrifuge at 5,000xg for 5min.2. Carefully open 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_000476.2
RefSeq Size:	2271 bp
RefSeq ORF:	585 bp
Locus ID:	203
UniProt ID:	P00568
Cytogenetics:	9q34.11
Domains:	ADK
Protein Families:	Druggable Genome
Protein Pathways:	Metabolic pathways, Purine metabolism
MW:	21.5 kDa
Gene Summary:	This gene encodes an adenylate kinase enzyme involved in energy metabolism and homeostasis of cellular adenine nucleotide ratios in different intracellular compartments. This gene is highly expressed in skeletal muscle, brain and erythrocytes. Certain mutations in this gene resulting in a functionally inadequate enzyme are associated with a rare genetic disorder causing nonspherocytic hemolytic anemia. Alternative splicing of this gene results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Dec 2015]

Product images:


HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY AK1 (Cat# RC215130, 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-AK1 (Cat# [TA500321]). Positive lysates [LY400171] (100ug) and [LC400171] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400171]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215130 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified AK1 protein (Cat# [TP315130]). The protein was produced from HEK293T cells transfected with AK1 cDNA clone (Cat# RC215130) using MegaTran 2.0 (Cat# [TT210002]).