

## Product datasheet for **SC119850**

### Adenylate Kinase 1 (AK1) (NM\_000476) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Adenylate Kinase 1 (AK1) (NM_000476) Human Untagged Clone
Tag:	Tag Free
Symbol:	Adenylate Kinase 1
Synonyms:	HTL-S-58j
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC119850 sequence for NM_000476 edited (data generated by NextGen Sequencing)

```
ATGGAAGAGAAGCTGAAGAAAACCAAGATCATCTTTGTGGTGGGTGGGCCTGGCTCAGGG
AAGGGCACCCAGTGTGAGAAGATCGTGCAGAAGTATGGCTACACCCACCTCTCCACCGGG
GACCTCTGCGGTCCGAGGTCAGCTCAGGCTCGGCCAGGGGCAAGAAGCTGTCGGAATC
ATGGAGAAGGGGAGCTGGTTCCACTGGAGACAGTGTGGACATGCTCCGGGATGCCATG
GTGGCCAAAGTCAATACTTCCAAAGGCTTCTGATTGATGGCTACCCGCGGGAGGTGCAG
CAAGGAGAAGAGTTTGAGCGACGGATTGGACAGCCACACTGCTGCTGTATGTGGACGCA
GGCCCTGAGACCATGACCCAGCGGCTCTTGAACGTGGAGAGACCAGCGGCGTGTGGAC
GACAATGAGGAGACCATCAAAAAGCGGCTGGAGACCTATTACAAGGCCACAGAACCCGTC
ATCGCCTTCTATGAGAAACGTGGCATTGTGCGCAAGGTCAACGCTGAGGGCTCCGTGGAC
AGTGTCTTCTCCAGGTCTGCACCCACCTGGACGCCCTAAAGTAG
```

Clone variation with respect to NM\_000476.2



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**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_000476 unedited  
 GTCAAATTTGTATACGACTCATATAGGCGGCCGCGNAATTCGCACGAGGCACGCACTGGC  
 CCCGGCGCCACCCGACCCCTCCCAAAGCACTGACACGGCTCCCGGGACCTCGGCAGG  
 ATGGAAGAGAAGCTGAAGAAAACCAAGATCATCTTTGTGGTGGGTGGGCCTGGCTCAGGG  
 AAGGGCACCCAGTGTGAGAAGATCGTGCAGAAGTATGGCTACACCCACCTCTCCACCGGG  
 GACCTCCTGCGGTCCGAGGTCAGCTCAGGCTCGGCCAGGGGCAAGAAGCTGTGGAATC  
 ATGGAGAAGGGGAGCTGGTCCACTGGAGACAGTGTGGACATGCTCCGGGATGCCATG  
 GTGGCCAAAGTCAATACTTCCAAAGGCTTCTGATTGATGGCTACCCGCGGGAGGTGCAG  
 CAAGGAGAAGAGTTTGTAGCGACGGATTGGACAGCCACACTGCTGCTGTATGTGGACGCA  
 GGCCCTGAGACCATGACCAGCGGCTCTTGAAACGTGGAGAGACCAGCGGGCGTGTGGAC  
 CGACATGAGGAGACCATCAAAAAGCGGCTGGAGACCTATTACAAGGCCACAGAACCCGTC  
 ATCGCCTTCTATGAGAAACGTGGCATTGTGCGCAAGGTCAACGCTGNAGGCTCCGTGGAC  
 AGTGTCTTCTCCAAGTCTGCACCACCTGNACGCCCTAAGTAGCAACGCTGGAGCCGCTTC  
 CCCAGCTCAAAGCCCCGCCACCCGCTCTGATTAGAGGTCCCTCTGGCCTGAGCGCAG  
 CGCTNCAACCCTGGCCTGCTGAGCACAGACGGAGGAAGCCGCTTATCTGTTTCATGGAC  
 AGCTGAGCCCTAAGGAAATTTCTTAGGAAAAANNNNNNNNNNNNNNNNNNNNNNNNNNN  
 ANANANAAAAAAAANCCCTTCGCTTTAGTTGGGGCCCCG

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_000476 unedited  
 CGCGGCCCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT  
 TTTTTTTTTTTTTTTTTTCTTAAAAATTCCTTAGGGCTCACCTGCCATAAAAAACA  
 GGATAAGCGGTTTCTCCGTTTGGGCTAAAAGGGCAGGGGGGAGGCCCTGCCCTAAGGC  
 CAGAAGGACCTTAAATAAGAACGGGGGGGGCGGGGCTTAAACCTGGGAAAGCGGTTCCA  
 GCGTTGTTACTTTAGGGGCTCCAGGGGGGGCAACCTGGAAAAAACACTGTCCACGGA  
 CCCCTAAGGGTTAACCTTGCCCAATGCCACGTTTTTAAATAAAAGGCAAAAACGGGTTT  
 TGGGGCCTTAAAAAGGTCTCCACCCGTTTTTTGAGGGCCTCCTATTGGCGCCACACC  
 CCCGCTGGTCTCTCCACGTTTAAAAACCCGCTGGGTCAATGGTCTAAGGGCCTGCGTCCAC  
 ATACAGAAGAAGGGGGGCTGTCCAATCCGGCGTTAAACTTTTTTCTTGTGTCACCTC  
 CCGGGGTACCCATCAATCAGGAACCTTTGAAAGTATTGACTTTGGCCACCATGGCATC  
 CCGGAGCATGTCCAACACTGTCTCCAGGGGAACAGCTGCCCTTCTCCATGATTTCCAA  
 CAGCTTTTGGCCCTGGCCGACCTGAGCTAACCTCGGACCCAGGAGGCCCCCGGGGAA  
 AAGTGGGTTGACCCATACTTTTGGAGATCTTTTAACTGGGTGCCCTTCCCTGAACCAG  
 GCCACCCACCACAAAGAGGATCTTGNTTTNTTAAAGATTCTTCCCTCCTGCCGAGGC  
 CCGGGAACCCCTGTAATGCTTTTGGGAAGGTGCGGGGGCCCCCGGGCCAAGGCGTGC  
 CCTCTGCCGAATATCGGGCCCCCTAAAGGGAGTCCATTACAAAATTTGCAGGTACAAA

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_000476

**Insert Size:**

870 bp

**OTI Disclaimer:**

Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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\\_000476.1](#), [NP\\_000467.1](#)

**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

**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]  
Transcript Variant: This variant (1) represents the longest transcript and encodes the shorter isoform (1). Both variants 1 and 2 encode the same protein (isoform 1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.