

## Product datasheet for **RC203490**

### ATIC (NM\_004044) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ATIC (NM_004044) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ATIC
Synonyms:	AICAR; AICARFT; HEL-S-70p; IMPCHASE; PURH
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC203490 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCTCCCGCCAGCTCGCCTTATTTAGTGTCTCTGACAAAACCGCCCTTGTGGAATTTGCAAGAAACC  
 TGACCGCTCTTGGTTTGAATCTGGTCGCTTCCGGAGGGACTGCAAAAGCTCTCAGGGATGCTGGTCTGGC  
 AGTCAGAGATGTCTCTGAGTTGACGGGATTTCTGAAATGTTGGGGGACGTGTGAAAACCTTGCATCCT  
 GCAGTCCATGCTGGAATCCTAGCTCGTAATATTCAGAAGATAATGCTGACATGGCCAGACTTGATTCA  
 ATCTTATAAGAGTTGTTGCCTGCAATCTCTATCCCTTTGTAAGACAGTGGCTTCTCCAGGTGTAAGTGT  
 TGAGGAGGCTGTGGAGCAAATTGACATTGGTGGAGTAACCTTACTGAGAGCTGCAGCCAAAAACACGCT  
 CGAGTGACAGTGGTGTGAACCCAGAGGACTATGTGGTGTGCCACGGAGATGCAGAGCTCCGAGAGTA  
 AGGACACCTCCTTGGAGACTAGACGCCAGTTAGCCTTGAAGGCATTCCTCATACGGCACAATATGATGA  
 AGCAATTTAGATTATTTAGGAAACAGTACAGCAAAGGCGTATCTCAGATGCCCTTGAGATATGGAATG  
 AACCCACATCAGACCCCTGCCAGCTGTACACACTGCAGCCAAAGCTTCCATCAGATTTCTAAATGGAG  
 CCCCTGGATTTATAAACTTGTGCGATGCTTTGAACGCCTGGCAGCTGGTGAAGGAACTCAAGGAGGCTTT  
 AGGTATTCAGCCGCTGCCTCTTTCAAACATGTACGCCAGCAGGTGCTGCTGTTGGAATTCACACTCAGT  
 GAAGATGAGGCCAAAGTCTGCATGGTTTATGATCTCTATAAAACCTCACACCCATCTCAGCGGCATATG  
 CAAGAGCAAGAGGGGCTGATAGGATGTCTTCAATTTGGTGAATTTGTTGCATTGTCGGATGTTTGTGATGT  
 ACCAACTGCAAAAATTTCCAGAGAAGTATCTGATGGTATAAATGCCCCAGGATATGAAGAAGAAGCC  
 TTGACAACTACTTTCCAAAAAGAAAAATGGAAACTATTGTGCTTTCAGATGGACCAATCTTACAACCCAG  
 ATGAAAATGAAGTTCGAACTCTCTTTGGTCTTCAATTTAAGCCAGAAGAGAATAATGGTGTCTGCGACAA  
 GTCAATATTTAGCAATGTTGTTACCAAAAATAAAGATTTGCCAGAGTCTGCCCTCCGAGACCTCATCGTA  
 GCCACCATTGCTGCAAGTACACTCAGTCTAACTCTGTGTGCTACGCCAAGAACGGGCAGGTTATCGGCA  
 TTGGAGCAGGACAGCAGTCTCGTATACACTGCACTCGCCTTGCAGGAGATAAGGCAAACTATTGGTGGCT  
 TAGACACCATCCACAAGTCTTTGATGAAGTTTAAAACAGGAGTGAAGAGAGCAGAAATCTCCAATGCC  
 ATCGATCAATATGTGACTGGAACCATTTGGCAGGATGAAGATTTGATAAAGTGAAGGCACTGTTTGGG  
 AAGTCCCTGAGTTACTACTGAGGCAGAGAAGAAGGAATGGGTTGAGAACTGACTGAAGTTTCTATCAG  
 CTCTGATGCCTTCTCCCTTTCCGAGATAACGTAGACAGAGCTAAAAGGAGTGGTGTGGCGTACATTGCC  
 GCTCCCTCCGGTCTGCTGCTGACAAAGTTGTGATTGAGGCTGCGACGAACTGGGAATCATCTCGCTC  
 ATACGAACCTTCGGCTCTCCACCAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC203490 protein sequence  
 Red=Cloning site Green=Tags(s)

MAPGQLALFSVSDKTGLVEFARNLTALGLNLVASGGTAKALRDAGLAVRDVSELTGFPEMLGGRVKTLP  
 AVHAGILARNIPEDNADMARLDFNLIRVVACNLYPFVKTVASPGVTVEEAQEIDIGGVTLRLAAKNHA  
 RVTVVCEPEDYVVVSTEMQSSKSDTSLETRRQLALKAFTHTAQYDEAISDYFRKQYKQVSGVQMPRLRYGM  
 NPHQTPAQLYTLQPKLPITVLNGAPGFINLCDALNAWQLVKELKEALGIPAAASFKHVSPAGAAVGIPLS  
 EDEAKVCMVYDLKTLTPIISAAYARARGADRMSSFGDFVALSDVCDVPTAKIISREVSVDGIAPGYEEEE  
 LTIILSKKNGNYCVLQMDQSYKPDENEVRTLFGHLHL SQRNNGVVVDSLFSNVVTKNKDLPESALRDLIV  
 ATIAVKYQSNVSYAKNGQVIGIGAGQQSRIHCTRLAGDKANYWMLRHHPQVLSMKFKTGKRAEISNA  
 IDQYVTGTIGEDDLIKWKALFEEVPELLTEAEKKEWVEKLETVSISDAFFPFRDNVDRAKRSGVAYIA  
 APSGSAADKVVIEACDELGIILAHTNLRFLFHH

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6079\\_g06.zip](https://cdn.origene.com/chromatograms/mk6079_g06.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_004044

ORF Size: 1776 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\\_004044.7](#)

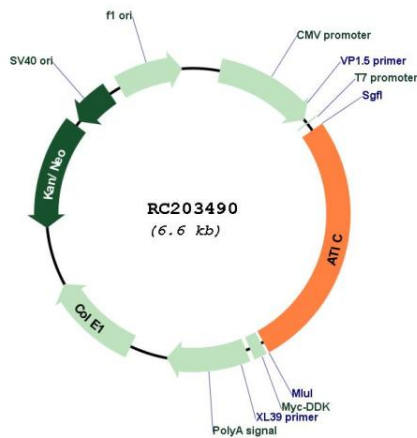
RefSeq Size: 2094 bp

RefSeq ORF: 1779 bp

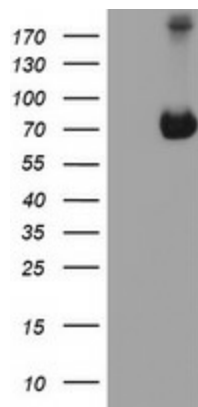
Locus ID: 471

**UniProt ID:** [P31939](#)  
**Cytogenetics:** 2q35  
**Domains:** AICARFT\_IMPCHas, MGS  
**Protein Families:** Stem cell - Pluripotency  
**Protein Pathways:** Metabolic pathways, One carbon pool by folate, Purine metabolism  
**MW:** 64.6 kDa  
**Gene Summary:** This gene encodes a bifunctional protein that catalyzes the last two steps of the de novo purine biosynthetic pathway. The N-terminal domain has phosphoribosylaminoimidazolecarboxamide formyltransferase activity, and the C-terminal domain has IMP cyclohydrolase activity. A mutation in this gene results in AICA-ribosiduria. [provided by RefSeq, Sep 2009]

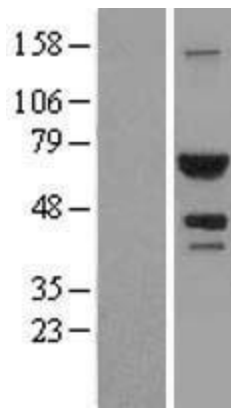
### Product images:



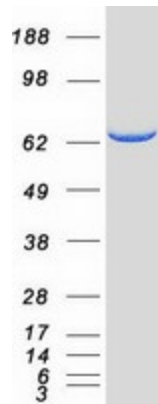
Circular map for RC203490



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ATIC (Cat# RC203490, 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-ATIC (Cat# [TA504553]). Positive lysates [LY418255] (100ug) and [LC418255] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY418255]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203490 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ATIC protein (Cat# [TP303490]). The protein was produced from HEK293T cells transfected with ATIC cDNA clone (Cat# RC203490) using MegaTran 2.0 (Cat# [TT210002]).