

Product datasheet for **RR203228**

Aco1 (NM_017321) Rat Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aco1 (NM_017321) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Aco1
Synonyms:	Acon1; AH; IRP1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>RR203228 representing NM_017321
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAAGAATCCATTTGCCACCTTGCCGAGCCCTTGACCCTGCACAGCCAGAAAGAAATCTTCAACT
 TGAATAAATTGGAGGACTCAAGATATGGACGCTTACCGTTCTCTATCAGAGTTCTCCTGGAGGCCCGCT
 TCGGAACTGTGACGAGTTTTTGGTGAAGAAGAATGACATTGAGAATATCCTGAACTGGAGTATCATGCAG
 CATAAGAGCATAGAAGTGCCGTTAAGCCAGCCGAGTCATACTGCAGGACTTTACGGGCGTGCCTGCTG
 TGGTTGATTTTGCAGCAATGCGCGATGCTGTGAAGAAGTTGGGAGGAAATCCAGAGAAAAATAACCTGT
 CTGCCCGCTGACCTTGAATCGATCATTCCATCCAGGTTCAATTTCAACAGAAGGCAGACAGTTTGCAG
 AAGAATCAAGACCTGGAATTTGAAAGGAATAGAGAACGATTTGAATTTTTAAAGTGGGGTCCCAGGCCCT
 TTTGCAACATGAGGATTATTCCTCTGGCTCAGGAATTATCACCAAGTGAATCTGGAGTATTTGGCAAG
 AGTAGTGTGGATCAGGATGGATGTTACTACCCAGATAGCCTCGTGGGCACAGATTCTCACACCACCATG
 ATTGATGGTCTGGGAGTTCTGGTTGGGGTGTAGGTGGTATTGAAGCAGAAGCTGTCATGCTGGGTGAGC
 CAATCAGCATGGTGTCTCCCGAGGTGATTGGCTACAAGCTGATGGGAAGCCTCACCTCTGGTAACTC
 CACGGACATTGTGCTCACCATTACCAAGCACCTCCGACAAGTTGGGGTCTGGGCAAATTCGTGGAGTTT
 TTCGGGCCAGGAGTGGCCAGCTGTCCATTGCTGACCGAGCTACGATTGCCAACATGTGCCCAGAGTACG
 GCGCGACGGCAGCCTTCTCCCGGTCGACGACGTTAGCATCGCGTACCTGGTGCAGACAGGTCGTGAGGA
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 CAAGACCCAGACTTCACTCAGGTCGTGGAGTTAGATTTGAAAACAGTTGTGCCTTGCTGCAGTGGACCTA
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 GAATTCACCTTGTCTCATGGCTCCGTGGTGTGATCGCCGCCATCACTAGCTGCACAAACACCAGCAATCCGT
 CCGTGATGTTAGGCGCAGGATTGTTAGCAAAGAAAGCCGTAGAGGCTGGCCTGAATGTGAAGCCTTACGT
 CAAAACAGCCTGTCTCCTGGGAGTGGAGTGGTACCTACTACCTTCGAGAGAGTGGAGTCATGCCTTAC
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 TTTTGAAGGACGAGTCCATCCTAACACCCGGGCCAACTACTTAGCATCTCCCCACTAGTAAATAGCATAT
 GCAATTGCAGGCACCGTCAGGATCGACTTCGAGAAAGAGCCTTTGGGAGTGAACGCACAGGGCCAAACAG
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 CTGTCTGGCAGAGAGCTACGAGCGCACTCACTGCAGCAACCTGGTTGGCATGGGGTGTATCCCTTGA
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 GGCCAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR203228 representing NM_017321
 Red=Cloning site Green=Tags(s)

MKNPFAHLAEPLDPAQPGKFFNLNKLEDSRYGRLPFSIRVLEAAVRNCFEFLVKKNDIENILNWSIMQ
 HKSIEVFPKPARVILQDF TGVP AVVDF AAMRD AVK KLG NPEK INP VCP ADL VIDHS IQVHFNRRADSLQ
 KNQDLEFERNRERFEFLKWSQAF CNMRI IPPGSGI IHQVNLEYLARVVF DQDGCYYPDSL VGTDSHTTM
 IDLGLV L GWGVGGIEAEAVMLGQPI SMVLPQVIGYKLMGKPHPLVTSTDIVL TITKHLRQVGVVGFVEF
 FGPGVAQLSIADRATI ANMCEY GATAA FFPVDDVSIAYLVQTGREEDKVKHIKRYLQAVGMFRDFSDSS
 QDPDFTQVVELDLKTVVPCSGPKRPQDKVAVSEIEKDFESCLGAKQGFQVAPDHHNDHKTFIYNSD
 EFTLAHGSVVI AAIT SCTNTSNPSVMLGAGLLAKKAVEAGLNVPYVKTSLSPGSGVVTYLRESGVMPY
 LSQ L GFDV VGYCMT CIGNSGPLPEPVVEAITQGD L VAVGVL SGNRNFEGRVHPNTRANYL ASPPLVIAY
 AIAGTVRIDFEKEPLGVNAQQQVFLKDIWPTRDEIQEVERKYVIPGMFKEVYQKIETV NKS WNALAAP S
 EKLYAWNPKSTYIKSPFFESL TLDLQPPKSIVDAYVLLNLGDSVTTDHI SPAGNIARNSPAARYL TNRG
 LTPRDFNSYGSRRGNDAIMARGTFANIRLLNKFLNKQAPQTVHLP SGETLDVFDAAERYQQAGLPLIVLA
 GKEYGSGSSRDWAAGKPFLLGKAVLAESYERTHC SNL VGMGVIPLEYLPGETADSLGLTGRERYTIHIP
 EHLKPRMKVQIKLDTGKTFQAVMRFD TDVELTYFHNGGILNYMIRKMAQ

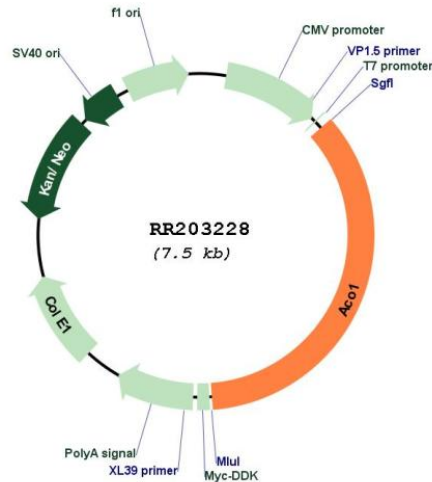
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_017321

ORF Size: 2667 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_017321.1](#), [NP_059017.1](#)

RefSeq Size: 3564 bp

RefSeq ORF: 2670 bp

Locus ID: 50655

UniProt ID: [Q63270](#)

Cytogenetics: 5q22

MW: 98.1 kDa

Gene Summary: This gene encodes a member of the aconitase/IPM isomerase protein family. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. Depending on iron levels in the cytosol, the encoded protein can function as either an aconitase enzyme or as an mRNA binding protein. When cellular iron levels are high, the encoded protein functions as an aconitase, an essential enzyme in the TCA cycle that catalyzes the conversion of citrate to isocitrate. When cellular iron levels are low, the encoded protein regulates iron uptake and utilization by binding to iron-responsive elements in the untranslated regions of mRNAs for genes involved in iron metabolism [provided by RefSeq, Jan 2014]