

## Product datasheet for **RC204307**

### Aconitase 2 (ACO2) (NM\_001098) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Aconitase 2 (ACO2) (NM_001098) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Aconitase 2
Synonyms:	ACONM; HEL-S-284; ICRD; OCA8; OPA9
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC204307 representing NM\_001098  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCGCCCTACAGCCTACTGGTACTCGGCTGCAGAAAGCTCTGGGTGTGCGGCAGTACCATGTGGCCT  
 CAGTCCTGTGCCAACGGGCAAGGTGGCGATGAGCCACTTTGAGCCCAACGAGTACATCCATTATGACCT  
 GCTAGAGAAGAACATTAACATTGTTTCGCAACGACTGAACCGGCCGCTGACCCTCTCGGAGAAGATTGTG  
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 GCCGATGCTGTGGATGTCATGGCTGGGATCCCCTGGGAGCTGAAGTGCCCAAGGTGATTGGCGTGAAGC  
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 GGGCCCTTACCCTGACCTGGCTCACCTGTGGCAGAAGTGGCAAGGTGGCAGAGAAGGAAGGATGGC  
 CTCTGGACATCCGAGTGGTCTAATTGGTAGCTGCACCAATTCAAGCTATGAAGATATGGGGCGCTCAGC  
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 GAGCAGATCCGCGCCACCATTGAGCGGGACGGCTATGCACAGATCTTGAAGGATCTGGGTGGCATTGTCC  
 TGGCCAATGCTTGTGGCCCTGCATTGGCCAGTGGGACAGGAAGGACATCAAGAAGGGGAGAAGAACAC  
 AATCGTCACTCTACAACAGGAACTTACGGGCGCAACGACGCAAAACCCCGAGACCCATGCCTTTGTC  
 ACGTCCCAGAGATTGTCACAGCCCTGGCCATTGCGGGAACCTCAAGTTCACCCAGAGACCGACTACC  
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 ACCAGCCAGCGCCTGCAGCTCCTGGAGCCTTTTGACAAGTGGGATGGCAAGGACCTGGAGGACCTGCAGA  
 TCCTCATCAAGGTCAAAGGGAAGTGTACCCTGACCACATCTCAGCTGCTGGCCCCCTGGTCAAGTTCGG  
 TGGCACTTGATTAACATCTCCAACAACCTGCTCATTGGTGGCATCAACATTGAAAACGGCAAGGCAAC  
 TCCGTGGCAATGCCGCTCACTCAGGAGTTTGGCCCCGTCCTGCACTGCCCGCTACTACAAGAAACATG  
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 GCCTCGCCACCTTGGGGCCGGGCCATCATCACAAGAGCTTGGCAGGATCCACGAGACCAACCTGAAG  
 AAACAGGGCCTGCTGCCTCTGACCTTGGTGGCCGCTGACTACAACAAGATTACCCTGTGGACAAGC  
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 GACCCAGGAGACCATCCTCCTGAACCACACCTTCAACGAGACGCAGATTGAGTGGTTCGGCGCTGGCAGT  
 CCCCTCAACAGAATGAAGGAACTGCAACAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC204307 representing NM\_001098  
Red=Cloning site Green=Tags(s)

MAPYSLLVTRLQKALGVRQYHVASVLCQRAKVAMSHFEPNEYIHYDLLEKNINIVRKRLNRPLTSEKIV  
YGHLDPPASQEIERGKSYLRPDRVAMQDATAQMAMLQFISSGLSKVAVPSTIHCDHLIEAQVGGKDL  
RRAKDINQEVYNFLATAGAKYGVGFWKPGSGIIHQIILENYAYPGVLLIGTDSHTPNGGGLGGICIGVGG  
ADAVDVMAGIPWELKCPKVIKVLGTGSLGWSSPKDVILKVAGILTVKGGTGAIVEYHGPVDSISCTGM  
ATICNMGAEIGATTSVFPYNHRMCKYLKTGREDIANLADEFKDHLVDPGCHYDQLIEINLSELKPHIN  
GPFTPDLAHPVAEVGKVAEKEGWPLDIRVGLIGSCTNSSYEDMGRSAAVAKQALAHGLKCKSQFTITPGS  
EQIRATIERDGYAQILRDLGGIVLANACGPCIGQWRKDIKKGEKNTIVTSYNNRFTGRNDANPETHAFV  
TSPEIVTALAIAGTLKFNPETDYLGTGDKKFRLEAPDADELPGGEFDPGQDTYQHPPKDSGQHVDPSP  
TSQRLQLLEPFDKWDGKDLEDLQILIKVKGKCTTDHISAAGPWLKFRGHLDNISNNLLIGAINIENKAN  
SVRNAVTQEFGPVPTARYYKKGIRWVIGDENYEGSSREHAALPRHLGGRAIITKSFARIHETNLK  
KQGLLPLTFADPADYNKIHPVDKLTIQGLKDFTPGKPLKCIKHPNGTQETILLNHTFNETQIEWFRAGS  
ALNRMKELQQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mg2444\\_f08.zip](https://cdn.origene.com/chromatograms/mg2444_f08.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_001098

**ORF Size:** 2340 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\\_001098.3](#)

**RefSeq Size:** 2744 bp

**RefSeq ORF:** 2343 bp

**Locus ID:** 50

**UniProt ID:** [Q99798](#)

**Cytogenetics:** 22q13.2

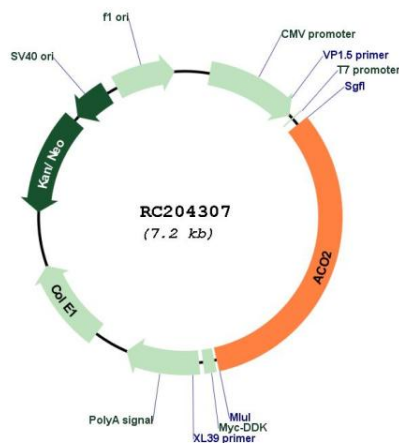
**Domains:** Aconitase\_C, aconitase

**Protein Pathways:** Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways

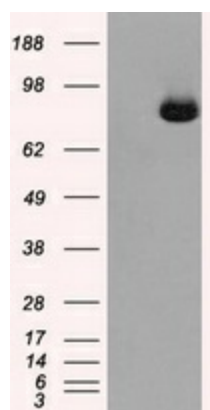
**MW:** 85.43 kDa

**Gene Summary:** The protein encoded by this gene belongs to the aconitase/IPM isomerase family. It is an enzyme that catalyzes the interconversion of citrate to isocitrate via cis-aconitate in the second step of the TCA cycle. This protein is encoded in the nucleus and functions in the mitochondrion. It was found to be one of the mitochondrial matrix proteins that are preferentially degraded by the serine protease 15 (PRSS15), also known as Lon protease, after oxidative modification. [provided by RefSeq, Jul 2008]

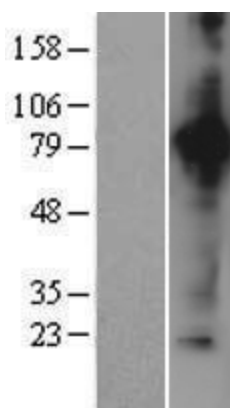
## Product images:



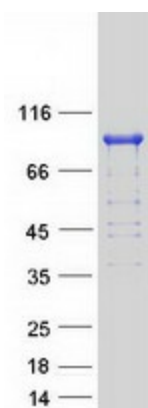
Circular map for RC204307



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ACO2 (Cat# RC204307, 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-ACO2 (Cat# [TA500824]). Positive lysates [LY400442] (100ug) and [LC400442] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400442]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204307 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ACO2 protein (Cat# [TP304307]). The protein was produced from HEK293T cells transfected with ACO2 cDNA clone (Cat# RC204307) using MegaTran 2.0 (Cat# [TT210002]).