

Product datasheet for **RG201857**

Aconitase 1 (ACO1) (NM_002197) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aconitase 1 (ACO1) (NM_002197) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Aconitase 1
Synonyms:	ACONS; HEL60; IREB1; IREBP; IREBP1; IRP1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG201857 representing NM_002197
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAGCAACCCATTTCGCACACCTTGTGAGCCATTGGATCCTGTACAACCAGGAAAGAAATCTTCAATT
 TGAATAAATTGGAGGATTCAAGATATGGGCGCTTACCATTTTCGATCAGAGTTCTTCTGGAAGCAGCCAT
 TCGGAATTGTGATGAGTTTTTGGTGAAGAAACAGGATATTGAAAAATTCTACATTGGAATGTCACGCAG
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 TGGTTGACTTTGCTGCAATGCGTGATGCTGTGAAAAAGTTAGGAGGAGATCCAGAGAAAAATAACCTGT
 CTGCCCTGCTGATCTTGAATAGATCATTCCATCCAGGTTGATTTCAACAGAAGGCAGACAGTTTACAG
 AAGAATCAAGACCTGGAATTTGAAAGAAATAGAGAGCGATTTGAATTTTTAAAGTGGGGTCCCAGGCTT
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 AGTGGTATTTGATCAGGATGGATATTATTACCCAGACAGCCTCGTGGGCACAGACTCGCACACTACCATG
 ATTGATGGCTTGGCATTCTTGGTTGGGGTGTCCGGTATTGAAGCAGAAGCTGTCATGCTGGGTGAGC
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 GATAAGCTGTTTTTCTGGAATCCAAATCTACGTATATCAAATCACCACTTCTTTGAAAACCTGACTT
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 GGCAAAGAGTACGGTGCAGGCAGCTCCCGAGACTGGGCAGCTAAGGGCCCTTTCCTGCTGGGAATCAAAG
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 GAAAACCTCAAACCACAAATGAAAGTCCAGGTCAAGCTGGATACTGGCAAGACCTTCCAGGCTGTATGA
 GGTTTGACTGATGTGGAGCTCACTTATTTCTCAACGGGGCATCCTCAACTACATGATCCGCAAGAT
 GGCCAAG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >RG201857 representing NM_002197
 Red=Cloning site Green=Tags(s)

MSNPFAHLAEPLDPVQPGKFFNLNKLEDSRYGRLPFSIRVLEAAIRNCDEFLVKKQDIENILHWNVTQ
 HKNIEVPFKPARVILQDF TGVP AVVDF AAMRDAVKKLG DDEKINPVCPADLVIDHSIQVDFNRRADSLQ
 KNQDLEFERNRERFEFLK WGSQAFHNMRI IPPGSGIIHQVNLEYLARVVF DQDGYYPDSL VGTDSHTTM
 IDLGLILGWGVGGIEAEAVMLGQPI SMVLPQVIGYRLMGKPHPLVTSTDI VLTITKHLRQVGVVGFVEF
 FGPVLAQLSIADRATI ANMCEY GATAAF FPVDEVSITYLVQ TGRDEEKLKYIKKYLQAVGMFRDFNDPS
 QDPDFTQVVELDLKTVVPCCSGPKRPQDKVAVSMDMKDFESCLGAKQGFGFQVAP EHHNDHKTFIYDNT
 EFTLAHGSVVIAAIT SCTNTSNPSVMLGAGLLAKKAVDAGLNVMPYIKTSLSPGSGVVTYLQESGVMPY
 LSQ L GFDVVGYCMT CIGNSGPLPEPVVEAITQGD L VAVGVL SGNRNFEGRVHPNTRANYL ASPPLVIAY
 AIAGTIRIDFEKEPLGVNAKGQQVFLKDIWPTRDEIQ AVERQYVIPGMFKEVYQKIETVNESWNLATPS
 DKLFFWNSKSTYIKSPPFFENL TLDLQPPKSIVDAYVLLNLGDSVTTDHI SPAGNIARNSPAARYL TNRG
 LTPREFNSYGSRRGNDAVMARGTFANIRLLNRFLNKQAPQTIHLPSGEILDVFDAAERYQQAGLPLIVLA
 GKEYGAGSSRDWAAKGPFLLG IKA VLAESYERIHRSNLVGMGVIPLEYLPGENADALGLTGQERYTIIIP
 ENLKPQMKVQVKLDTGKTFQAVMRFDTDELTYFLNGGILNYMIRKMAK

TRTRPLE - GFP Tag - V

Restriction Sites:

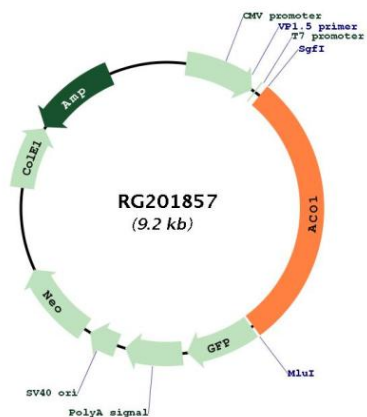
SgfI-MluI

Cloning Scheme:



ACCN:	NM_002197
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:	<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_002197.3
RefSeq Size:	3498 bp
RefSeq ORF:	2670 bp
Locus ID:	48
UniProt ID:	P21399
Cytogenetics:	9p21.1
Domains:	Aconitase_C, aconitase
Protein Families:	Druggable Genome
Protein Pathways:	Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways
Gene Summary:	The protein encoded by this gene is a bifunctional, cytosolic protein that functions as an essential enzyme in the TCA cycle and interacts with mRNA to control the levels of iron inside cells. When cellular iron levels are high, this protein binds to a 4Fe-4S cluster and functions as an aconitase. Aconitases are iron-sulfur proteins that function to catalyze the conversion of citrate to isocitrate. When cellular iron levels are low, the protein binds to iron-responsive elements (IREs), which are stem-loop structures found in the 5' UTR of ferritin mRNA, and in the 3' UTR of transferrin receptor mRNA. When the protein binds to IRE, it results in repression of translation of ferritin mRNA, and inhibition of degradation of the otherwise rapidly degraded transferrin receptor mRNA. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. Alternative splicing results in multiple transcript variants [provided by RefSeq, Jan 2014]

Product images:



Circular map for RG201857