

Product datasheet for **RG239741**

Aconitase 1 (ACO1) (NM_001278352) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aconitase 1 (ACO1) (NM_001278352) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ACO1
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:

>RG239741 representing NM_001278352.
 Blue=ORF Red=Cloning site Green=Tag(s)

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GCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGATCGCC
ATGAGCAACCCATTGCGACACCTTGCTGAGCCATTGGATCCTGTACAACCAGGAAAGAAATCTTCAAT
TTGAATAAATTGGAGGATTCAAGATATGGGCCTTACCATTTTCGATCAGAGTTCTTCTGGAAGCAGCC
ATTCGGAATTGTGATGAGTTTTTGGTGAAGAAACAGGATATTGAAAATATTCTACATTGGAATGTCACG
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TTACAGAAGAATCAAGACCTGGAATTTGAAAGAAATAGAGAGCGATTTGAATTTTTAAAGTGGGTTCC
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AAGCTGGATACTGGCAAGACCTTCCAGGCTGTCATGAGGTTTGACACTGATGTGGAGCTCACTTATTTCC
CTCAACGGGGCATCCTCAACTACATGATCCGCAAGATGGCCAAG
ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAAAC
  
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Protein Sequence: >Peptide sequence encoded by RG239741
 Blue=ORF Red=Cloning site Green=Tag(s)

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MSNPFAHLAEPLDPVQPGKFFNLNKLEDSRYGRLPFSIRVLLEAAIRNCDEFLVKKQDIENILHWNVT
QHKNIEVPFKPARVILQDFTGVPVAVDF AAMRDAVKKGGDPEKINPVCADLVIDHSIQVDFNRRADS
LQKNQDLEFERNRERFEFLKWSQAFHNMRI IPPGSGIIHQVNLEYLARVVFDDQGGYYPD SLVGTDSH
TTMIDGLGILGWGVGGIEAEAVMLGQPI SMVLPQVIGYRLMGKPHPLVTSTDIVL TITKHLRQVGVVVK
FVEFFGPGVAQLSIADRATIANMCPEYGATAAFFPVDEV SITYLVQTGRDEEKLYIKKYLQAVGMFRD
FNDPSQDPDFTQVVELDLKTVVPCCSGPKRPQDKVAVSDMKKDFESCLGAKQGGFKGFQVAPEHHNDHKT
FIYDNTEFTLAHGSVIAAIT SCTNTSNPSVMLGAGLLAKKAVDAGLNVMPIKTSLSPGSGVVTTYLQ
ESGVMPYLSQLGFDVVGYGCMTCIGNSGPLPEPVVEAITQGD LVAVGVL SGNRNFEGRVHPNTRANYLA
SPPLVIAYAIAGTIRIDFEKEPLGVNAKGQVFLKDIWPTRDEIQ AVERQYVIPGMFKEVYQKIETVNE
SWNALATPSDKLFFWNSKSTYIKSPPFFENL TLDLQPPKSIVDAYVLLNLGDSVTTDHISPAGNIARNS
PAARYL TNRGLTPREFNSYGSRRGNDAYMARGTFANIRLLNRFLNKQAPQTIHLPSGEILDVFDAAERY
QQAGLPLIVLAGKEYGAGSSRDWAAKGPFL LGIKAVLAESYERIHRSNLVGMGVIPLEYLPGENADALG
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TRTRPLEMESESGLPAMEIECRITGTLNGVEFELVGGGEGTPEQGRMTNKKMSTKGALTFSPYLLSHV
MGYGFYHFGTYP SGYENPFLHAINNGGYNTRIEKYEDGGVLHVSFSYRYEAGRVIGDFKVMGTGFPEP
SVIFTDKIIRS NATVEHLHPMGDNDLDGSFTRTFSLRDGGYSSVVDSHMHFKA IHP SILQNGGPMFA
FRRVEEDHSNTELGIVEYQHAFKTPDADAGEERV
  
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Restriction Sites: Sgfl-MluI

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).
RefSeq:	NM_001278352.1 , NP_001265281.1
RefSeq Size:	3633 bp
RefSeq ORF:	2670 bp
Locus ID:	48
UniProt ID:	P21399
Cytogenetics:	9p21.1
Protein Families:	Druggable Genome
Protein Pathways:	Citrate cycle (TCA cycle), Glyoxylate and dicarboxylate metabolism, Metabolic pathways
MW:	98.8 kDa
Gene Summary:	<p>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]</p>