

## Product datasheet for TP301857

### Aconitase 1 (ACO1) (NM\_002197) Human Recombinant Protein

#### Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant protein of human aconitase 1, soluble (ACO1), 20 µg
Species:	Human
Expression Host:	HEK293T
Expression cDNA Clone or AA Sequence:	>RC201857 protein sequence <b>Red</b> =Cloning site <b>Green</b> =Tags(s)

MSNPFAHLAEPLDPVQP GKFFNLNKLEDSRYGRLPFSIRVLLEAAIRNCDEFLVKKQDIENILHWNVTQ  
HKNIEVPFKPARVILQDFTGVPVAVDFAAMRDAVKKLGGDPEKINPVCADLVIDHSIQVDFNRRADSLQ  
KNQDLEFERNRERFEFLKWGSQAFHNMRIIPPGSGIIHQVNLEYLARVVFDDQGYYPDSLVTGDSHTTM  
IDGLGILGWGVGGIEAEAVMLGQPISMVLPQVIGYRLMGKPHPLVTSTDIVLTITKHLRQVGVGKFEF  
FGPGVAQLSIADRATIANMCPEYGATAAFFPVDEVSITYLVQTGRDEEKLKYIKKYLQAVGMFRDFNDPS  
QDPDFTQVVELDLKTVVPCCSGPKRPQDKVAVSDMKKDFESCLGAKQGFKGFQVAPEHHNDHKTFIYDN  
T  
EFTLAHGSVIAAITSCTNTSNPSVMLGAGLLAKKAVDAGLNVMPYIKTSLSPGSGVVTYYLQESGVMPY  
LSQLGFDVVGYGCMTCIGNSGPLPEPWEAITQGD LVAVGVLSGNRNFEGRVHPNTRANYLASPLVIAY  
AIAGTIRIDFEKEPLGVNAKGQQVFLKDIWPTRDEIQAVRQYVIPGMFKEYVQKIETVNESWALATPS  
DKLFFWNSKSTYIKSPPFFENLTLDLQPPKSIVDAYVLLNLGDSVTTDHISPAGNIARNSPAARYLTNRG  
LTPREFNSYGSRRGNDAVMARGTFANIRLLNRFLNKQAPQTIHLPSGEILDVFDAERYQQAGLPLIVLA  
GKEYGAGSSRDWAAKGPFLGKAVLAESYERIHRSNLVGMGVIPLEYLPGENADALGLTGQERYTIIP  
ENLKPQMKVQVKLDTGKTFQAVMRFDTDVELTYFLNGGILNYMIRKMAK

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

Tag:	C-Myc/DDK
Predicted MW:	98.2 kDa
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3, 10% glycerol
Preparation:	Recombinant protein was captured through anti-DDK affinity column followed by conventional chromatography steps.



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**Note:** For testing in cell culture applications, please filter before use. Note that you may experience some loss of protein during the filtration process.

**Storage:** Store at -80°C.

**Stability:** Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.

**RefSeq:** [NP\\_002188](#)

**Locus ID:** 48

**UniProt ID:** [P21399](#)

**RefSeq Size:** 3561

**Cytogenetics:** 9p21.1

**RefSeq ORF:** 2667

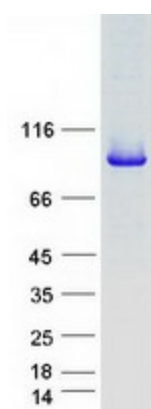
**Synonyms:** ACONS; HEL60; IREB1; IREBP; IREBP1; IRP1

**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]

**Protein Families:** Druggable Genome

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

### Product images:



Coomassie blue staining of purified ACO1 protein (Cat# TP301857). The protein was produced from HEK293T cells transfected with ACO1 cDNA clone (Cat# [RC201857]) using MegaTran 2.0 (Cat# [TT210002]).