

Recombinant Human ACO1 Protein, GST-Tagged

Cat. No. ACO1-163H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human ACO1 full-length ORF (NP_002188.1, 1 a.a. - 889 a.a.) recombinant protein with GST-tag at N-terminal.
Species	Human
Source	Wheat Germ
ProteinLength	1-889 aa
Description	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]
Molecular Mass	124.8 kDa
AA Sequence	MSNPFAHLAEPLDPVQPGKKFFNLNKLEDSRYGRLPFSIRVLLEAAIRNCDEFLVKK

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QDIENILHWNVTQHKNIEVPFKPARVILQDFTGVPAVVDFAAMRDAVKKLGGDPEKIN
 PVCADLVIDHSIQVDFNRRADSLQKNQDLEFERNRERFEFLKWGSQAFHNMRIIPP
 GSGIIHQVNLEYLARVFDQDGYYPDSLVTGDSHTTMIDGLGILGWGVGGIEAEAV
 MLGQPISMVLPQVIGYRLMGKPHPLVTSTDIVLTITKHLRQVGVVGKFVEFFGPGVA
 QLSIADRATIANMCPEYGATAAFFPVDEVSITYLVQTGRDEEKLKYIKKYLQAVGMFR
 DFNDPSQDPDFTQVVELDLKTVVPCCSGPKRPQDKVAVSDMKKDFESCLGAKQGF
 KGFQVAPEHHNDHKTFIYDNTEFTLAHGSVIAAITSCTNTSNPSVMLGAGLLAKKAV
 DAGLNVMPYIKTSLSPGSGVVTYYLQESGVMPYLSQLGFDVVGYGCMTICIGNSGPL
 PEPVVEAITQGDLVAVGVLSGNRNFEGRVHPNTRANYLASPPLVIAYAIAGTIRIDFEK
 EPLGVNAKGQQVFLKDIWPTRDEIQAVRQYVIPGMFKEVYQKIETVNESWNALATP
 SDKLFFWNSKSTYIKSPPFFENLTDLQPPKSIVDAYVLLNLGDSVTTDHISPAGNIAR
 NSPAARYLTNRGLTPREFNSYGSRRGNDAVMARGTFANIRLLNRFLNKQAPQTIHLP
 SGEILDVFDAAERYQQAGLPLIVLAGKEYGAGSSRDWAAKGPFLGKAVLAESYERI
 HRSNLVGMGVIPLEYLPGENADALGLTGQERYTIIIPENLKPQMKVQVKLDTGKTFQA
 VMRFDTDVELTYFLNGGILNYMIRKMAK

Applications

Enzyme-linked Immunoabsorbent Assay
 Western Blot (Recombinant protein)
 Antibody Production
 Protein Array

Notes

Best use within three months from the date of receipt of this protein.

Storage

Store at -80 centigrade. Aliquot to avoid repeated freezing and thawing.

Storage Buffer

50 mM Tris-HCl, 10 mM reduced Glutathione, pH=8.0 in the elution buffer.

GENE INFORMATION

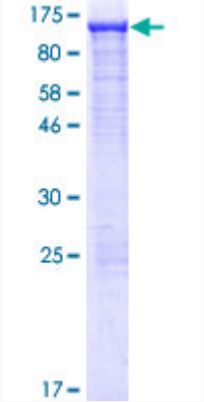
Gene Name

ACO1 aconitase 1, soluble [Homo sapiens]

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Official Symbol	ACO1
Synonyms	ACO1; aconitase 1, soluble; IREB1; cytoplasmic aconitate hydratase; IREBP; IRP1; IRE-BP 1; aconitate hydratase; citrate hydro-lyase; iron regulatory protein 1; ferritin repressor protein; iron-responsive element binding protein 1; iron-responsive element-binding protein 1; ACONS; IREBP1;
Gene ID	48
mRNA Refseq	NM_002197
Protein Refseq	NP_002188
MIM	100880
UniProt ID	P21399
 12.5% SDS-PAGE Stained with Coomassie Blue.	