

Recombinant Human ACO1 Protein, MYC/DDK-tagged

Cat. No. ACO1-911H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant human ACO1 protein, fused to MYC/DDK tag at C-terminus, was expressed in HEK293.
Species	Human
Source	HEK293
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].
Form	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10 % glycerol.
Molecular Mass	98.2 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining

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Concentration >50 ug/mL as determined by microplate BCA method

GENE INFORMATION

Gene Name aconitase 1[Homo sapiens]

Official Symbol ACO1

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

Gene ID 48

mRNA Refseq NM_002197.2

Protein Refseq NP_002188

MIM 100880

UniProt ID P21399

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