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Product datasheet for SC337635

Aconitase 1 (ACO1) (NM_001278352) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Aconitase 1 (ACO1) (NM_001278352) Human Untagged Clone
Tag:	Tag Free
Symbol:	ACO1
Synonyms:	ACONS; HEL60; IREB1; IREBP; IREBP1; IRP1
Vector:	pCMV6 series

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Fully Sequenced ORF: >NCBI ORF sequence for NM_001278352, the custom clone sequence may differ by one or more nucleotides

ATGAGCAACCCATTCGCACACCTTGCTGAGCCATTGGATCCTGTACAACCAGGAAAGAAATTCTTCAATT
TGAATAAATTGGAGGATTCAAGATATGGGCGCTTACCATTTTCGATCAGAGTTCTTCTGGAAGCAGCCAT
TCGGAATTGTGATGAGTTTTTGGTGAAGAAACAGGATATTGAAAATATTCTACATTGGAATGTCACGCAG
CACAAGAACATAGAAGTGCCATTTAAGCCTGCTCGTGTCATCCTGCAGGACTTTACGGGTGTGCCCGCTG
TGGTTGACTTTGCTGCAATGCGTGATGCTGTGAAAAAGTTAGGAGGAGATCCAGAGAAAATAAACCCTGT
CTGCCCTGCTGATCTTGTAATAGATCATTCCATCCAGGTTGATTTCAACAGAAGGGCAGACAGTTTACAG
AAGAATCAAGACCTGGAATTTGAAAGAAATAGAGAGCGATTTGAATTTTTAAAGTGGGGTTCCCAGGCTT
TTCACAACATGCGGATTATTCCCCCTGGCTCAGGAATCATCCACCAGGTGAATTTGGAATATTTGGCAAG
AGTGGTATTTGATCAGGATGGATATTATTACCCAGACAGCCTCGTGGGCACAGACTCGCACACTACCATG
ATTGATGGCTTGGGCATTCTTGGTTGGGGTGTCGGTGGTATTGAAGCAGAAGCTGTCATGCTGGGTCAGC
CAATCAGTATGGTGCTTCCTCAGGTGATTGGCTACAGGCTGATGGGGAAGCCCCACCCTCTGGTAACATC
CACTGACATCGTGCTCACCATTACCAAGCACCTCCGCCAGGTTGGGGTAGTGGGCAAATTTGTCGAGTTC
TTCGGGCCTGGAGTAGCCCAGTTGTCCATTGCTGACCGAGCTACGATTGCTAACATGTGTCCAGAGTACG
GAGCAACTGCTGCCTTTTTCCCAGTTGATGAAGTTAGTATCACGTACCTGGTGCAAACAGGTCGTGATGA
AGAAAAATTAAAGTATATTAAAAAATATCTTCAGGCTGTAGGAATGTTTCGAGATTTCAATGACCCTTCT
CAAGACCCAGACTTCACCCAGGTTGTGGAATTAGATTTGAAAACAGTAGTGCCTTGCTGTAGTGGACCCA
AAAGGCCTCAGGACAAAGTTGCTGTGTCCGACATGAAAAAGGACTTTGAGAGCTGCCTTGGAGCCAAGCA
AGGATTTAAAGGATTCCAAGTTGCTCCTGAACATCATAATGACCATAAGACCTTTATCTATGATAACACT
GAATTCACCCTTGCTCATGGTTCTGTGGTCATTGCTGCCATTACTAGCTGCACAAACACCAGTAATCCGT
CTGTGATGTTAGGGGCAGGATTGTTAGCAAAGAAAGCTGTGGATGCTGGCCTGAACGTGATGCCTTACAT
CAAAACTAGCCTGTCTCCTGGGAGTGGCGTGGTCACCTACTACCTACAAGAAAGCGGAGTCATGCCTTAT
CTGTCTCAGCTTGGGTTTGACGTGGTGGGCTATGGCTGCATGACCTGCATTGGCAACAGTGGGCCTTTAC
CTGAACCTGTGGTAGAAGCCATCACACAGGGAGACCTTGTAGCTGTTGGAGTACTATCTGGAAACAGGAA
TTTTGAAGGTCGAGTTCACCCCAACACCCGGGCCAACTATTTAGCCTCTCCCCCCTTAGTAATAGCATAT
GCAATTGCTGGAACCATCAGAATCGACTTTGAGAAAGAGCCATTGGGAGTAAATGCAAAGGGACAGCAGG
TATTTCTGAAAGATATCTGGCCGACTAGAGACGAGATCCAGGCAGTGGAGCGTCAGTATGTCATCCCGGG
GATGTTTAAGGAAGTCTATCAGAAAATAGAGACTGTGAATGAAAGCTGGAATGCCTTAGCAACCCCATCA
GATAAGCTGTTTTTCTGGAATTCCAAATCTACGTATATCAAATCACCACCATTCTTTGAAAACCTGACTT
TGGATCTTCAGCCCCCTAAATCTATAGTGGATGCCTATGTGCTGCTAAATTTGGGAGATTCGGTAACAAC
TGACCACATCTCCCCAGCTGGAAATATTGCAAGAAACAGTCCTGCTGCTCGCTACTTAACTAACAGAGGC
CTAACTCCACGAGAATTCAACTCCTATGGCTCCCGCCGAGGTAATGACGCCGTCATGGCACGGGGAACAT
TTGCCAACATTCGCTTGTTAAACAGATTTTTGAACAAGCAGGCACCACAGACTATCCATCTGCCTTCTGG
GGAAATCCTTGATGTGTTTGATGCTGCTGAGCGGTACCAGCAGGCAGGCCTTCCCCTGATCGTTCTGGCT
GGCAAAGAGTACGGTGCAGGCAGCTCCCGAGACTGGGCAGCTAAGGGCCCTTTCCTGCTGGGAATCAAAG
CCGTCCTGGCCGAGAGCTACGAGCGCATTCACCGCAGTAACCTGGTTGGGATGGGTGTGATCCCACTTGA
ATATCTCCCTGGTGAGAATGCAGATGCCCTGGGGCTCACAGGGCAAGAACGATACACTATCATTATTCCA
GAAAACCTCAAACCACAAATGAAAGTCCAGGTCAAGCTGGATACTGGCAAGACCTTCCAGGCTGTCATGA
GGTTTGACACTGATGTGGAGCTCACTTATTTCCTCAACGGGGGCATCCTCAACTACATGATCCGCAAGAT
GGCCAAGTAG

Restriction Sites: SgfI-MluI

ACCN: NM_001278352

OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
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:	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_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
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] Transcript Variant: This variant (1) represents the longer transcript. Variants 1, 2 and 3 encode the same protein.