

Product datasheet for RC201857L2V

OriGene Technologies, Inc.

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Aconitase 1 (ACO1) (NM_002197) Human Tagged ORF Clone Lentiviral Particle

Product data:

Product Type: Lentiviral Particles

Product Name: Aconitase 1 (ACO1) (NM_002197) Human Tagged ORF Clone Lentiviral Particle

Symbol: Aconitase 1

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

Mammalian Cell

Selection:

None

Vector: pLenti-C-mGFP (PS100071)

Tag: mGFP

ACCN: NM_002197 **ORF Size:** 2667 bp

ORF Nucleotide

The ORF insert of this clone is exactly the same as(RC201857).

OTI Disclaimer:

Sequence:

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.

RefSeg: NM 002197.1

RefSeq Size: 3561 bp **RefSeq ORF:** 2670 bp

Locus ID: 48

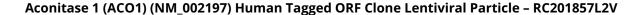
 UniProt ID:
 P21399

 Cytogenetics:
 9p21.1

Domains: Aconitase_C, aconitase

Protein Families: Druggable Genome





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

MW: 98.4 kDa

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]