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Product datasheet for RC217753

ACAT1 (NM_000019) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ACAT1 (NM_000019) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	ACAT1
Synonyms:	ACAT; MAT; T2; THIL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>RC217753 representing NM_000019
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTGTGCTGGCGGCACTTCTGCGCAGCGGCGCCCGCAGCCGCAGCCCCCTGCTCCGGAGGCTGGTGC
AGGAAATAAGATATGTGGAACGGAGTTATGTATCAAAACCCACTTTGAAGGAAGTGGTCATAGTAAGTGC
TACAAGAACACCCATTGGATCTTTTTTAGGCAGCCTTTCCTTGCTGCCAGCCACTAAGCTTGGTTCCATT
GCAATTCAGGGAGCCATTGAAAAGGCAGGGATTCCAAAAGAAGAAGTGAAAGAAGCATACATGGGTAATG
TTCTACAAGGAGGTGAAGGACAAGCTCCTACAAGGCAGGCAGTATTGGGTGCAGGCTTACCTATTTCTAC
TCCATGTACCACCATAAACAAAGTTTGTGCTTCAGGAATGAAAGCCATCATGATGGCCTCTCAAAGTCTT
ATGTGTGGACATCAGGATGTGATGGTGGCAGGTGGGATGGAGAGCATGTCCAATGTTCCATATGTAATGA
ACAGAGGATCAACACCATATGGTGGGGTAAAGCTTGAAGATTTGATTGTAAAAGACGGGCTAACTGATGT
CTACAATAAAATTCATATGGGCAGCTGTGCTGAGAATACAGCAAAGAAGCTGAATATTGCACGAAATGAA
CAGGACGCTTATGCTATTAATTCTTATACCAGAAGTAAAGCAGCATGGGAAGCTGGGAAATTTGGAAATG
AAGTTATTCCTGTCACAGTTACAGTAAAAGGTCAACCAGATGTAGTGGTGAAAGAAGATGAAGAATATAA
ACGTGTTGATTTTAGCAAAGTTCCAAAGCTGAAGACAGTTTTCCAGAAAGAAAATGGCACAGTAACAGCT
GCCAATGCCAGTACACTGAATGATGGAGCAGCTGCTCTGGTTCTCATGACGGCAGATGCAGCGAAGAGGC
TCAATGTTACACCACTGGCAAGAATAGTAGCATTTGCTGACGCTGCTGTAGAACCTATTGATTTTCCAAT
TGCTCCTGTATATGCTGCATCTATGGTTCTTAAAGATGTGGGATTGAAAAAAGAAGATATTGCAATGTGG
GAAGTAAATGAAGCCTTTAGTCTGGTTGTACTAGCAAACATTAAAATGTTGGAGATTGATCCCCAAAAAG
TGAATATCAATGGAGGAGCTGTTTCTCTGGGACATCCAATTGGGATGTCTGGAGCCAGGATTGTTGGTCA
TTTGACTCATGCCTTGAAGCAAGGAGAATACGGTCTTGCCAGTATTTGCAATGGAGGAGGAGGTGCTTCT
GCCATGCTAATTCAGAAGCTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC217753 representing NM_000019
Red=Cloning site Green=Tags(s)

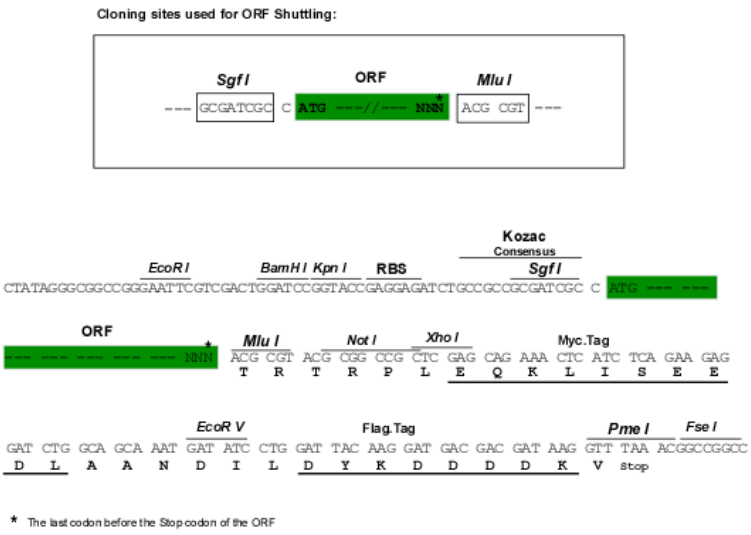
MAVLAALLRSGARSRSPLLRRLVQEIRYVERSYVSKPTLKEVVIVSATRTPIGSFLGSLSLLPATKLGSI
AIQGAIEKAGIPKEEVKEAYMGNVLQGGEGQAPTRQAVLGAGLPISTPCTTINKVCASGMKAIMMASQSL
MCGHQDVMVAGGMESMSNVPYVMNRGSTPYGGVKLEDLIVKDGLTDVYNKIHMGSCAENTAKKLNIARNE
QDAYAINSYTRSKAAWEAGKFGNEVIPVTVTVKGQPDVVVKEDEEYKRVDFSKVPKLKTVFQKENGTVTA
ANASTLNDGAAALVLMTADAAKRLNVTPLARIVAFADAAVEPIDFPIAPVYAASMVLKDVGLKKEDIAMW
EVNEAFSLVVLANIKMLEIDPQKVNINGGAVSLGHPIGMSGARIVGHLTHALKQGEYGLASICNGGGGAS
AMLIQKL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8121_a03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000019

ORF Size: 1281 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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.

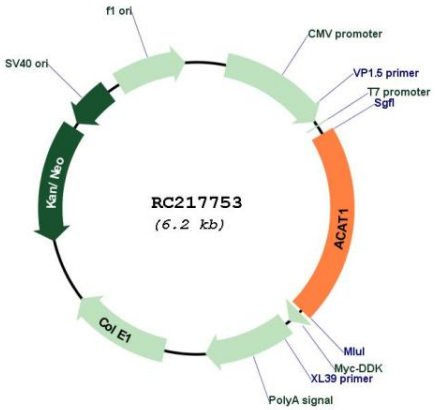
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

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.

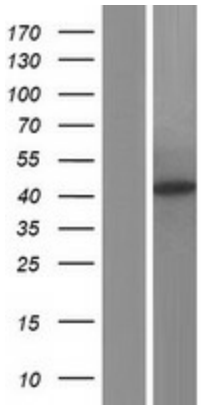
RefSeq: NM_000019.4

RefSeq Size:	2149 bp
RefSeq ORF:	1284 bp
Locus ID:	38
UniProt ID:	P24752
Cytogenetics:	11q22.3
Domains:	thiolase
Protein Families:	Druggable Genome
Protein Pathways:	Butanoate metabolism, Fatty acid metabolism, Lysine degradation, Metabolic pathways, Propanoate metabolism, Pyruvate metabolism, Synthesis and degradation of ketone bodies, Terpenoid backbone biosynthesis, Tryptophan metabolism, Valine, leucine and isoleucine degradation
MW:	45.6 kDa
Gene Summary:	This gene encodes a mitochondrially localized enzyme that catalyzes the reversible formation of acetoacetyl-CoA from two molecules of acetyl-CoA. Defects in this gene are associated with 3-ketothiolase deficiency, an inborn error of isoleucine catabolism characterized by urinary excretion of 2-methyl-3-hydroxybutyric acid, 2-methylacetoacetic acid, tiglylglycine, and butanone. [provided by RefSeq, Feb 2009]

Product images:



Circular map for RC217753



Western blot validation of overexpression lysate (Cat# [LY424978]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC217753 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).