

Product datasheet for SC125282

ACAT1 (NM_000019) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ACAT1 (NM_000019) Human Untagged Clone
Tag:	Tag Free
Symbol:	ACAT1
Synonyms:	ACAT; MAT; T2; THIL
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC125282 sequence for NM_000019 edited (data generated by NextGen Sequencing)

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ATGGCTGTGCTGCCGGCCTTCTGCGCAGCGCGCCCGCAGCCGAGCCCCTGCTCCGG
AGGCTGGTGCAGGAAATAAGATATGTGGAACGGAGTTATGTATCAAAACCACTTTGAAG
GAAGTGGTCATAGTAAGTGTACAAGAACCCATTGGATCTTTTTTAGCAGCCTTTCC
TTGCTGCCAGCCACTAAGCTTGGTTCCATTGCAATTCAGGGAGCCATTGAAAAGGCAGGG
ATTCCAAAAGAAGAAGTAAAAGAAGCATACATGGGTAATGTTCTACAAGGAGGTGAAGGA
CAAGCTCTACAAGGCAGGCAGTATTGGGTGCAGGCTTACCTATTTCTACTCCATGTACC
ACCATAAACAAAGTTTGTCTCAGGAATGAAAGCCATCATGATGGCCTCTCAAAGTCTT
ATGTGTGGACATCAGGATGTGATGGTGGCAGGTGGGATGGAGAGCATGTCCAATGTTCCA
TATGTAATGAACAGAGGATCAACACCATATGGTGGGGTAAAGCTTGAAGATTTGATTGTA
AAAGACGGGCTAACTGATGTCTACAATAAAATTCATATGGGCAGCTGTGCTGAGAATACA
GCAAAGAAGCTGAATATTGCACGAAATGAACAGGACGCTTATGCTATTAATTTCTATACC
AGAAGTAAAGCAGCATGGGAAGCTGGGAAATTTGAAATGAAGTTATTCCTGTCACAGTT
ACAGTAAAGGTCAACCAGATGTAGTGGTAAAAGAAGTGAAGAAATAAACGTGTTGAT
TTAGCAAAGTTCCAAAGCTGAAGACAGTTTTCCAGAAAAGAAAATGGCACAGTAACAGCT
GCCAATGCCAGTACACTGAATGATGGAGCAGCTGCTCTGGTTCTCATGACGGCAGATGCA
GCGAAGAGGCTCAATGTTACACCACTGGCAAGAATAGTAGCATTTGCTGACGCTGCTGTA
GAACCTATTGATTTTCCAATTGCTCCTGTATATGCTGCATCTATGTTCTTAAAGATGTG
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CTAGCAAACATTAATGTTGGAGATTGATCCCAAAAAGTGAATATCAATGGAGGAGCT
GTTTCTCTGGGACATCCAATTGGGATGTCTGGAGCCAGGATTGTTGGTCAATTTGACTCAT
GCCTTGAAGCAAGGAGAAACGGTCTTGCCAGTATTTGCAATGGAGGAGGAGGTGCTTCT
GCCATGCTAATTCAGAAGCTGTAG

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Clone variation with respect to NM_000019.3
13 g=>c



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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000019 unedited
 ATTTTGTATCCGACTTCTATAGGCGGCCGCGCAATTTCGCACGAGTGGAGCCGATACTCAT
 CCCACTGCGACCATGGCTGTGCTGCCGGCACTTCTGCGCATCGGGCGCCCGAGCCGAGC
 CCCCTGCTCCGGAGGCTGGTGCAGGAAATAAGATATGTGGAACGGAGTTATGTATCAAAA
 CCCACTTTGAAGGAAGTGGTCATAGTAAGTGCTACAAGAACACCCATTGGATCTTTTTTA
 AGCAGCCTTTCCCTTGCTGCCAGCCACTAAGCTTGGTCCATTGCAATTC AAGGAGCCATT
 GAAAAGGCAGGGATTCCAAAAGAAGAAGTGAAGAAGCATACATGGGTAATGTTCTACAA
 AGAGGTGAAAGACAAGCTCCTACAAAGCAAGCAGTATTGGGTGCAAGCTTACCTATTTCT
 ACTCCATGTACCACCATAAACAAAAGTTTGTGCTTCAAGAATGAAAGCCATCATGATGGCC
 TCTCAAAGTCTTATGTGTGGACATCAAGATGTGATGGTGGCAGGTGGGATGGATAGCATG
 TCCAATGTTCCATATGTAATGAACAGATGATCAACACCATATGGTGGGGTAAAGCTTGAA
 GATTTGATTGCTAAAGACGGGCTAACTGATGTCTACAATAAAATTCATATGGGCAGCTGT
 GCTGAGAATACAGCANAGAATCTGAATATTGCACGAAATGAACAGGACGGCTATGCTATT
 AATTCCTATACCANAAGTAAAGCAGCATGGGAAGCTGGGAAATTTGCAAATGAAGNTATT
 CCTGTACAGTTACAGTAAAAAGTCAACCANATGTATCGGCAGAAAGAGAATGAGAAATAT
 AAACGCGTGATCTTAACAAGTTCCAAAGCTGAAGACAGTCTTCCCGAAAGAAAATGCCCA
 GTNACAGCTGTCAATTGCCTNACACTGAATGATGGAGCAACTGCTCCTGTTCTCATGACG
 CANATCCCGGAATAGCTCATGTTCCCACTGCCAAAATAAACCTGGCGGCCCGTCGTAAT
 CTATGATTTCAATGC

3' Read Nucleotide Sequence:

>OriGene 3' genomic read for NM_000019 unedited
 AGNCACATAACAAGNCTCAAAATTGGTGATGATTACAGATTTTTGAAAACTCTACTC
 TTCTCTGAATCTGAAGACAATCTAATCTATTTCTCCCATATATTGTCATTTTGCTCCT
 TCAAAAGATCTACAATACATTATTTGCCAACAGATAATGTGTACACAATGACCTTACTG
 CCCCTCCTCTTCTGAGGGGGAGTTTTCCCTCTTCAGAGCTGCAATTGAGGGTAGTGTG
 CATAGCCCCTGCCTGTAGCGTTTTAATTAATTTTTTCCAGATAAAATGCAATGCGAGAT
 ACTTCTGTACAGTCTGCTGCTTAAGACAGGCATTGTCGTGTATTGGAAGTGGTGATC
 TGTTCCCTTTTTTATATATCCATTACAGCATATCAGTTTCTACCCTCCCTTCCACTCTCTA
 TGCTGCTATAGTAATTCAGAGCCAAACTCCAGGGTTTTCTGCTTGACCTCCCCCAACC
 CTGAATGTTGAGGTTATAAGAAAATGCCCCCTCTAGACCCTGAGGACATGGGGCTTCT
 GTCCTTGTCTAATACTGCTGGCCCACTGGGGTTTTGGAGTGATTATATTAAGCCAC
 TGCTAAGTTTGTCCCAAATACCCACTTCTAAGTGGAAAAAAAATAATTTTAATTTAC
 CCGGAATTTACCTAAATGTAAATTAACCTTANAAAAGCCATTCCTTTGACCCTTTAAAAA
 TCCTAAAAAATTAAGGGGTTCTCAACAATGGAAACCTTCTGCCCTATTTTAAGCCC
 CTAATTTTCCCTTGGGATTTTTCCCTATTCGAAAAGGTAGACCTCCAAAGGCAAAA
 TGTTTCAAACCTTTTCAAGGTTCCCGAAAAAACCCCAAAAA

Restriction Sites:

NotI-NotI

ACCN:

NM_000019

Insert Size:

2500 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](#)

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_000019.2](#), [NP_000010.1](#)

RefSeq Size: 1518 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

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]