**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for RC201821

## ACAT2 (NM_005891) Human Tagged ORF Clone

### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | ACAT2 (NM_005891) Human Tagged ORF Clone |
| **Tag:** | Myc-DDK |
| **Symbol:** | ACAT2 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **ORF Nucleotide Sequence:** | >RC201821 ORF sequence<br>Red=Cloning site Blue=ORF Green=Tags(s)<br><br>TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC<br>GCCGCGATCGCC<br><br>ATGAATGCAGGCTCAGATCCTGTGGTCATCGTCTCGGCGGCGCGGACCATCATAGGTTCCTTCAATGGTG<br>CCTTAGCTGCTGTTCCTGTCCAGGACCTGGGCTCCACTGTCATCAAAGAAGTCTTGAAGAGGGCCACTGT<br>GGCTCCGGAAGATGTGTCTGAGGTCATCTTTGGACATGTCTTGGCAGCAGGCTGTGGGCAGAATCCTGTT<br>AGACAAGCCAGTGTGGGTGCAGGAATTCCCTACTCTGTTCCAGCATGGAGCTGCCAGATGATCTGTGGGT<br>CAGGCCTAAAAGCTGTGTGCCTTGCAGTCCAGTCAATAGGGATAGGAGACTCCAGCATTGTGGTTGCAGG<br>AGGCATGGAAAATATGAGCAAGGCTCCTCACTTGGCTTACTTGAGAACAGGAGTAAAGATAGGTGAGATG<br>CCACTGACTGACAGTATACTCTGTGATGGTCTTACAGATGCATTTCACAACTGTCATATGGGTATTACAG<br>CTGAAAATGTAGCCAAAAAATGGCAAGTGAGTAGAGAAGATCAGGACAAGGTTGCAGTTCTGTCCCAGAA<br>CAGGACAGAGAATGCACAGAAAGCTGGCCATTTTGACAAAGAGATTGTACCAGTTTTGGTGTCAACTAGA<br>AGAGGTCTTATTGAAGTTAAAACAGATGAGTTTCCTCGCCATGGGAGCAACATAGAAGCCATGTCCAAGC<br>TAAAGCCTTACTTTCTTACTGATGGAACGGGAACAGTCACCCCAGCCAATGCTTCAGGAATAAATGATGG<br>TGCTGCAGCTGTCGTTCTTATGAAGAAGTCAGAAGCTGATAAACGTGGACTTACACCTTTAGCACGGATA<br>GTTTCCTGGTCCCAAGTGGGTGTGGAGCCTTCCATTATGGGAATAGGACCAATTCCAGCCATAAAGCAAG<br>CTGTTACAAAAGCAGGTTGGTCACTGGAAGATGTTGACATATTTGAAATCAATGAAGCCTTTGCAGCTGT<br>CTCTGCTGCAATAGTTAAAGAACTTGGATTAAACCCAGAGAAGGTCAATATTGAAGGAGGGGCTATAGCC<br>TTGGGCCACCCTCTTGGAGCATCTGGCTGTCGAATTCTTGTGACCCTGTTACACACACTGGAGAGAATGG<br>GCAGAAGTCGTGGTGTTGCAGCCCTGTGCATTGGGGGTGGGATGGGAATAGCAATGTGTGTTCAGAGAGA<br>A<br><br>ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT<br>ACAAGGATGACGACGATAAGGTTTAA |



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**Protein Sequence:**

>RC201821 protein sequence
Red=Cloning site Green=Tags(s)

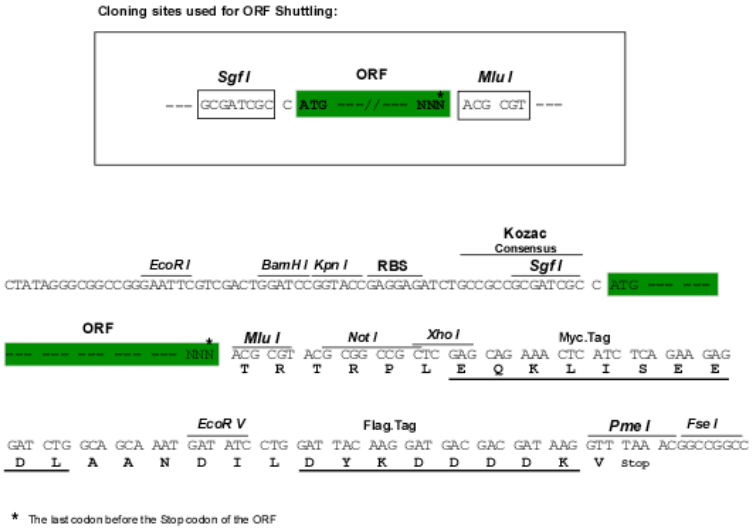
MNAGSDPVVIVSAARTIIGSFNGALAAVPVQDLGSTVIKEVLKRATVAPEDVSEVIFGHVLAAGCGQNPV
RQASVGAGIPYSVPAWSCQMICGSGLKAVCLAVQSIGIGDSSIVVAGGMENMSKAPHLAYLRTGVKIGEM
PLTDSILCDGLTDAFHNCHMGITAENVAKKWQVSREDQDKVAVLSQNRTENAQKAGHFDKEIVPVLVSTR
RGLIEVKTDEFPRHGSNIEAMSKLKPYFLTDGTGTVTPANASGINDGAAAVVLMKKSEADKRGLTPLARI
VSWSQVGVEPSIMGIGPIPAIKQAVTKAGWSLEDVDIFEINEAFAAVSAAIVKELGLNPEKVNIEGGAIA
LGHPLGASGCRILVTLLHTLERMGRSRGVAALCIGGGMGIAMCVQRE

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** https://cdn.origene.com/chromatograms/mk6085_e04.zip

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**




**ACCN:** NM_005891

**ORF Size:** 1191 bp

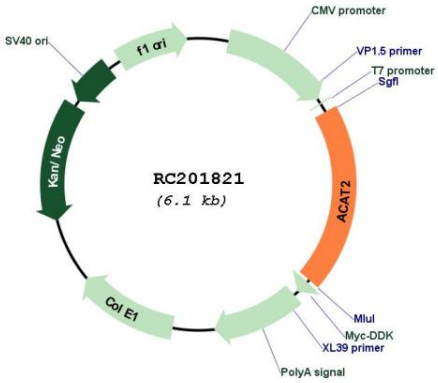
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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.

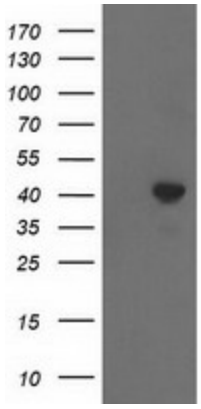
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

| | |
|---|---|
| **Reconstitution Method:** | 1. Centrifuge at 5,000xg for 5min.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_005891.3 |
| **RefSeq Size:** | 1567 bp |
| **RefSeq ORF:** | 1194 bp |
| **Locus ID:** | 39 |
| **UniProt ID:** | Q9BWD1 |
| **Cytogenetics:** | 6q25.3 |
| **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:** | 41.4 kDa |
| **Gene Summary:** | The product of this gene is an enzyme involved in lipid metabolism, and it encodes cytosolic acetoacetyl-CoA thiolase. This gene shows complementary overlapping with the 3-prime region of the TCP1 gene in both mouse and human. These genes are encoded on opposite strands of DNA, as well as in opposite transcriptional orientation. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Dec 2014] |

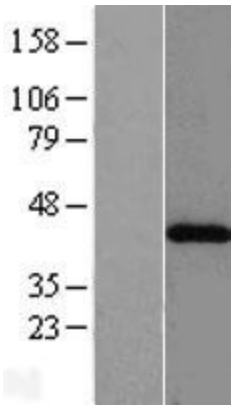
## Product images:



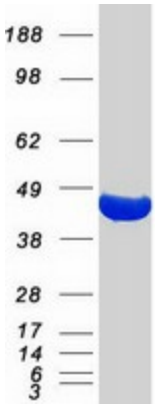

Circular map for RC201821




HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY ACAT2 (Cat# RC201821, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-ACAT2(Cat# [TA501221]). Positive lysates [LY417006] (100ug) and [LC417006] (20ug) can be purchased separately from OriGene.




Western blot validation of overexpression lysate (Cat# [LY417006]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201821 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).




Coomassie blue staining of purified ACAT2 protein (Cat# [TP301821]). The protein was produced from HEK293T cells transfected with ACAT2 cDNA clone (Cat# RC201821) using MegaTran 2.0 (Cat# [TT210002]).