

## Product datasheet for **RG218293**

### ACAT1 (ACACA) (NM\_198834) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	ACAT1 (ACACA) (NM_198834) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	ACACA
Synonyms:	ACAC; ACACAD; ACC; ACC1; ACCA
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG218293 representing NM_198834 Red=Cloning site Blue=ORF Green=Tags(s)

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**Protein Sequence:** >RG218293 representing NM\_198834  
 Red=Cloning site Green=Tags(s)

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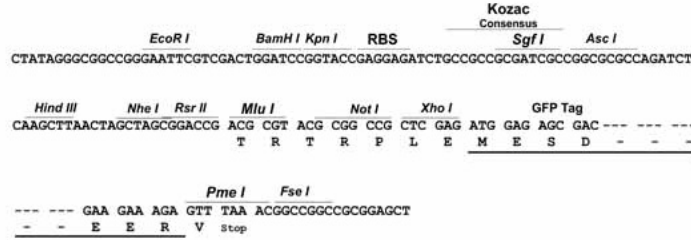
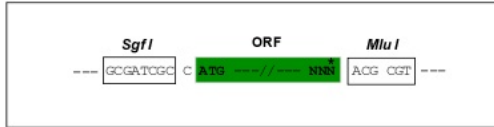
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TRTRPLE - GFP Tag - V

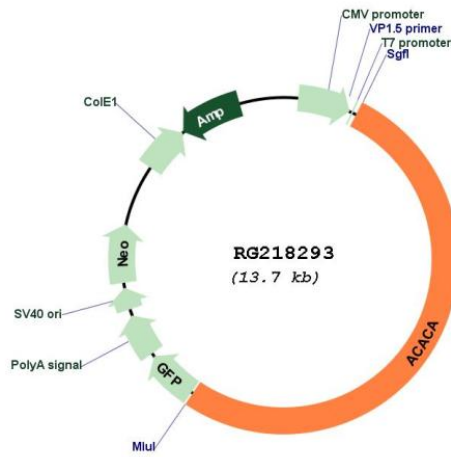
**Restriction Sites:** SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN:

NM\_198834

<b>ORF Size:</b>	7149 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_198834.1</a> , <a href="#">NP_942131.1</a>
<b>RefSeq Size:</b>	10018 bp
<b>RefSeq ORF:</b>	7152 bp
<b>Locus ID:</b>	31
<b>UniProt ID:</b>	<a href="#">Q13085</a>
<b>Cytogenetics:</b>	17q12
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Fatty acid biosynthesis, Insulin signaling pathway, Metabolic pathways, Propanoate metabolism, Pyruvate metabolism

**Gene Summary:**

Acetyl-CoA carboxylase (ACC) is a complex multifunctional enzyme system. ACC is a biotin-containing enzyme which catalyzes the carboxylation of acetyl-CoA to malonyl-CoA, the rate-limiting step in fatty acid synthesis. There are two ACC forms, alpha and beta, encoded by two different genes. ACC-alpha is highly enriched in lipogenic tissues. The enzyme is under long term control at the transcriptional and translational levels and under short term regulation by the phosphorylation/dephosphorylation of targeted serine residues and by allosteric transformation by citrate or palmitoyl-CoA. Multiple alternatively spliced transcript variants divergent in the 5' sequence and encoding distinct isoforms have been found for this gene. [provided by RefSeq, Jul 2008]