

Product datasheet for **SC110818**

ACOX1 (NM_004035) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ACOX1 (NM_004035) Human Untagged Clone
Tag:	Tag Free
Symbol:	ACOX1
Synonyms:	ACOX; MITCH; PALMCOX; SCOX
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC110818 sequence for NM_004035 edited (data generated by NextGen Sequencing)

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ATGAACCCGGACCTGCGCAGGGAGCGGGATTCCGCCAGCTTCAACCCGGAGCTGCTTACA
CACATCCTGGACGGCAGCCCCGAGAAAACCCGGCGCCGCCGAGAGATCGAGAACATGATC
CTGAACGACCCAGACTTCCAGCATGAGGACTTGAACCTCCTCACTCGCAGCCAGCGTTAT
GAGGTGGCTGTGAGGAAAAGTCCATCATGGTGAAGAAGATGAGGGAGTTTGGCATCGCT
GACCCTGATGAAATTATGTGGTTTAAAAATTTTGTGCACCGAGGGCGGCCCTGAGCCTCTG
GATCTTCACTTGGGCATGTTCTGCCACCTTGCTTACCAGGCAACTGCGGAGCAGCAG
GAGCGCTTCTTATGCCCGCTGGAACCTGGAGATCATTGGCACTTATGCCCAGACAGAG
ATGGGTGATGAACTCACCTTCGAGGCTTGGAAACCACAGCCACGTATGACCCTGAAACC
CAGGAGTTCATTCTCAACAGTCTACTGTGACCTCCATTAATGGTGGCCTGGTGGGCTT
GGAAAGACTTCAAATCATGCAATAGTTCCTGCCAGCTCATCACTAAGGGGAAATGCTAT
GGATTACATGCCTTATCGTACCTATTCGTGAAATCGGGACCCATAAGCCTTGGCCAGGA
ATTACCGTTGGTACATCGGCCCAAATTTGGTTATGATGAGATAGACAATGGCTACCTC
AAAATGGACAACCATCGTATCCAGAGAAAACATGCTGATGAAGTATGCCCAGGTGAAG
CCTGATGGCACATACGTAAACCCTGAGTAACAAGCTGACTTACGGGACCATGGTGTTT
GTCAGGTCCTTCTTGTGGGAGAAGCTGCTCGGGCTCTGTCTAAGGCGTGCAACCATTGCC
ATCCGATACAGCGCTGTGAGGCACCACTGAAATCAAGCCAGGTGAACCAGAACCACAG
ATTTTGGATTTTCAAACCCAGCAGTATAAACTCTTCCACTCCTGGCCACTGCCTATGCC
TTCCAGTTTGTGGGCGCATACATGAAGGAGACCTATCACCGGATTAACGAAGGCATTGGT
CAAGGGGACCTGAGTGAAGTGCCTGAGCTTCATGCCCTCACCGCTGGACTGAAGGCTTTC
ACCTCCTGAGCTGCAAACACTGGCATTGAAGCATGTGGATGGCTTGTGGTGGGCATGGC
TATTTCTCATTGCAGTGGTCTTCCAAATTTTATGTCAATTTACCCCAAGCTGTACCTTT
GAGGGAGAAAACACTGTCATGATGCTCCAGACGGCTAGGTTCTGATGAAAAGTTATGAT
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CAGCGCATCCAGCCACAGCAGGTAGCAGTCTGGCCAACCATGGTGGATATCAACAGCCCC
GAAAGCCTAACCGAAGCATATAAACTCCGTGCAGCCAGATTAGTAGAAATTGCTGCAAAA
AACCTTCAAAAAGAAGTGATTACAGAAAAAGCAAGGAGGTAGCTTGGAACTAAGTCTT
GTTGACCTTGTTCGAGCAAGTGAAGCACATTGCCACTATGTGGTAGTTAAGCTCTTTTCA
GAAAACTCCTCAAAATCAAGATAAAGCCATTCAAGCTGTCTTAAGGAGTTTATGTCTG
CTGATTTCTGTATGGAATCAGTCAGAACCGGGGGATTTCCTCAGGGGAGCATCATG
ACAGAGCCTCAGATTACACAAGTAAACCAGCGTGTAAAGGAGTTACTCACTCTGATTCCG
TCAGATGCTGTTGCTTGGTTGATGCATTTGATTTTCAAGGATGTGACACTTGGCTCTGTG
CTTGGCCGCTATGATGGGAATGTGTATGAAACTTGTGTTGAGTGGGCTAAGAACTCCCA
CTGAACAAAGCAGAGGTCCACGAATCTTACAAGCACCTGAAGTCACTGCAGTCCAAGCTC
TGA
```

Clone variation with respect to NM_004035.6

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_004035 unedited
 CAACATTTTGTAAACGAACTCACTATAGGGCGGCCGGAATCGGCACCGGGTGCTTACT
 TCGCTGCCAGCTGGTCGTCGCCATGAACCCGGACCTGCGCAGGGAGCGGGATTCCGCCAG
 CTTCAACCCGGAGCTGCTTACACACATCCTGGACGGCAGCCCCGAGAAAACCCGGCGCCG
 CCGAGAGATCGAGAACATGATCCTGAACGACCCAGACTCCAGCATGAGGACTTGAACTT
 CCTCACTCGCAGCCAGCGTTATGAGGTGGCTGTCAGGAAAAGTCCATCATGGTGAAGAA
 GATGAGGGAGTTTGGCATCGCTGACCCTGATGAAATTATGTGGTTAAAAATTTTGTGCA
 CCGAGGGCGGCCCTGAGCCTCTGGATCTTCACTTGGGCATGTTCCCTGCCACCTTGCTTCA
 CCAGGCAACTGCGGAGCAGCAGGAGCGCTTCTTATGCCCGCCTGGAAGTTGGAGATCAT
 TGGCACTTATGCCAGACAGAGATGGGTCATGGAAGTCACTTCCGAGGCTTGAAACCCAC
 AGCCACGTATGACCCTGAAACCCAGGAGTTCATTCTAACAGTCTACTGTGACCTCCAT
 TAAATGGTGGCCTGGTGGGCTTGAAAGACTTCAAATCATGCAATAGTTCCTTGCCAGCT
 CATCACTAAGGGGAAATGCTATGGATTACATGCCTTTATCGTACCTATTCGTGAAATCGG
 GACCCATAAGCCTTTGCCAGGAATTACCGTTGGTGACATCGGCCCAAATTTGGTTATGA
 TGAGATAGACAATGGCTACCTCANAATGGGACACCATCGTATTCCAGAGAAAACATGCT
 GATGAAGTATGCCCCAGTGAAGCCTGATGGCACATACGTGAAACCGGCTGAGTAACAGCT
 GACTTACGGGACCATGGTGGTTGTCANGGTCTTCTTGTGGGAGAAGCTGCTCNGGCTCT
 GTCTAAGCGTGCCN

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_004035 unedited
 TTATAATCTTTTTTTTTTTTTTTTACTTTAAGAAAAAATAATTAAGATGTATTTAACCTT
 TAAGTATAGAATGATTGTATAAATTAGATTTCACTGAAAGGACAATTAGCGATTCAGAG
 AAAGCTCCTAGAAATAGACTGAAAACAAAGCCATACATAGAGTAAGAAATAGAACCTATG
 GAAGTTCCATTTTTCTAACTATAGTTTTTTGGTTTTGTTTTTCCAGTTGTTAAAAAAA
 AAACAACCTCACAGTTTCAATATTTTCTGAACCAAAAAATCAGAACACATGGTTTGTGCAA
 AGGGTTTTTCTGTGCTACGTCTGGGAGTGCTGACCTAAGTGACATTTTTTTTTAATGCCA
 AATACAGTAATCTCCAAGCTTTAATGGCTTATGCCAAGATGACAGAATATGTGAAATCT
 GATTGTCCCAGAGTTACACTCTGCACTCCAAAGCTACAACAGTGCCACAGCTGAGAGGTT
 TCCCTATACTTCTACTACTGTGACAATTTAGCAATCCTTCAAATGGAAAATTCCTAATT
 ACACGAGACAATGGTCTACAGTAGGCCCGTGCGGAATAAGTTCCTCGTTGGAAAAATG
 CTAGCATGAATAGTTTGATAAATGCAATCCATCAGCAAAGGAGAGCAAGCAGGCAGAGAC
 TGTGCCAAGCAGAACTATTTCGCATCAAGTTTTCCAAATAAGTTCCTCTCCCCAGTCC
 CCTTTTCTTATTCTGCTTTTAAAGCCAGCCCCAGGTAAGTCTGGTAGAACACTGAGC
 AGGAAAGCTTTGGAGGGTTCTACACCACTTTCAAATACCTTTGGTTTATAAACACTTAT
 TAGCCCGTGATTAGCAATTAACATGGGAAAATAATCACTACCCCGAGAGTTGAATTCCG

Restriction Sites:

NotI-NotI

ACCN:

NM_004035

Insert Size:

3250 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_004035.4](#), [NP_004026.2](#)

RefSeq Size: 3445 bp

RefSeq ORF: 1983 bp

Locus ID: 51

UniProt ID: [Q15067](#)

Cytogenetics: 17q25.1

Domains: ACOX, Acyl-CoA_dh

Protein Families: Druggable Genome

Protein Pathways: alpha-Linolenic acid metabolism, Biosynthesis of unsaturated fatty acids, Fatty acid metabolism, Metabolic pathways, PPAR signaling pathway

Gene Summary:

The protein encoded by this gene is the first enzyme of the fatty acid beta-oxidation pathway, which catalyzes the desaturation of acyl-CoAs to 2-trans-enoyl-CoAs. It donates electrons directly to molecular oxygen, thereby producing hydrogen peroxide. Defects in this gene result in pseudoneonatal adrenoleukodystrophy, a disease that is characterized by accumulation of very long chain fatty acids. Alternatively spliced transcript variants encoding different isoforms have been identified. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) encodes isoform a, alternately referred to as ACOX1b per PMID: 17603022. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.