

Product datasheet for **SC110921**

HMGCR (NM_000859) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HMGCR (NM_000859) Human Untagged Clone
Tag:	Tag Free
Symbol:	HMGCR
Synonyms:	LDLCQ3
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_000859, the custom clone sequence may differ by one or more nucleotides

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ATGTTGTCAAGACTTTTTCGAATGCATGGCCTCTTTGTGGCCTCCCATCCCTGGGAAGTCATAGTGGGA
CAGTGACACTGACCATCTGCATGATGCCATGAACATGTTTACTGGTAACAATAAGATCTGTGGTTGGAA
TTATGAATGTCCAAAGTTTGAAGAGGATGTTTTGAGCAGTGACATTATAATTCTGACAATAACACGATGC
ATAGCCATCCTGTATATTTACTTCCAGTCCAGAATTTACGTCAACTTGGATCAAAATATATTTTTGGGTA
TTGCTGGCCTTTTCACAATTTTCTCAAGTTTTGTATTAGTACAGTTGTATTCACTTCTTAGACAAAGA
ATTGACAGGCTTGAATGAAGCTTTGCCCTTTTCTACTTTTGATTGACCTTTCCAGAGCAAGCACATTA
GCAAAGTTTGGCCTCAGTCCAACCTCACAGGATGAAGTAAGGGAAAAATTTGCTCGTGGAAATGGCAATTT
TAGGCTCTACGTTTACCCTCGATGCTCTTGTGAATGTCTTGTGATTGGAGTTGGTACCATGTCAGGGGT
ACGTCAGCTTGAATATGTGCTGCTTTGGCTGCATGTCAGTTCTTGCCAACTACTTCGTGTTTCATGACT
TTCTTCCAGCTTGTGTGCTTGGTATTAGAGCTTTCTCGGAAAGCCGCGAGGGTTCGTCCAATTTGGC
AGCTCAGCCATTTTGGCCGAGTTTGAAGAAGAAGAAAATAAGCCGAATCCTGTAACCTCAGAGGGTCAA
GATGATTATGTCTCTAGGCTTGGTCTTGTTCATGCTCACAGTCGCTGGATAGCTGATCCTTCTCCTCAA
AACAGTACAGCAGATACTTCTAAGGTTTCAATTAGGACTGGATGAAAATGTGTCCAAGAGAATTGAACCAA
GTGTTTCCCTCTGGCAGTTTTATCTCTCTAAAATGATCAGCATGGATATTGAACAAGTTATTACCCTAAG
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TGAGGTTATAAAACCTTAGTGGCTGAAACAGATACCCCAAACAGAGCTACATTTGTGGTGGTAACTCC
TCCTTACTCGATACTTCACTCAGTACTGGTGACACAGGAACCTGAAATTTGAACTTCCAGGAACTCCGC
CTAATGAAGAATGTCTACAGATACTTGGGAATGCAGAGAAAGGTGCAAAATTCCTTAGTGATGCTGAGAT
CATCCAGTTAGTCAATGCTAAGCATATCCAGCCTACAAGTTGGAACCTCTGATGGAACCTCATGAGCGT
GGTGTATCTATTCGCCGACAGTTACTTTCCAAGAAGCTTTCAGAACCTTCTTCTCAGTACCTACCTT
ACAGGGATTATAATTACTCCTTGGTGATGGGAGCTTGTGTGAGAATGTTATTGGATATATGCCCATCCC
TGTTGGAGTGGCAGGACCCCTTTGCTTAGATGAAAAGAATTTCAAGTTCCAATGGCAACAACAGAAAGGT
TGTCTTGTGGCCAGCACAATAGAGGCTGCAGAGCAATAGGTCTTGGTGGAGGTGCCAGCAGCCGAGTCC
TTGCAGATGGGATGACTCGTGGCCAGTTGTGCGTCTTCCACGTGCTTGTGACTCTGCAGAAGTGAAGC
CTGGCTCGAAACATCTGAAGGTTTCGACGTGATAAAGGAGGCATTTGACAGCACTAGCAGATTTGCACGT
CTACAGAAACTTCATACAAGTATAGCTGGACGCAACCTTTATATCCGTTTCCAGTCCAGGTCCAGGGGATG
CCATGGGGATGAACATGATTTCAAAGGGTACAGAGAAAGCACTTTCAAAACTTCACGAGTATTTCCCTGA
AATGCAGATTCTAGCCGTTAGTGGTAACTATTGTACTGACAAGAAACCTGCTGCTATAAATTGGATAGAG
GGAAGAGGAAAATCTGTTGTTTGTGAAGCTGTCATTCCAGCCAAGGTTGTGAGAGAAGTATTAAGACTA
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AGGCTACAACGCCCATGCAGCAACATTGTCACCGCCATCTACATTGCCGTGGCAGGATGCAGCACAG
AATGTTGGTAGTCAAACCTGTATTACTTTAATGGAAGCAAGTGGTCCCACAAATGAAGATTTATATATCA
GCTGCACCATGCCATCTATAGAGATAGGAACGGTGGTGGGACCAACCTACTACCTCAGCAAGCCTG
TTTGCAGATGCTAGGTGTTCAAGGAGCATGCAAAGATAATCCTGGGAAAATGCCCGCAGCTTGCCCGA
ATTGTGTGTGGGACCGTAAATGGCTGGGGAATTGTCACTTATGGCAGCATTGGCAGCAGGACATCTTGTC
AAAGTCACATGATTCACAACAGGTGCAAGATCAATTTACAAGACCTCCAAGGAGCTTGCACCAAGAAGAC
AGCCTGA
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5' Read Nucleotide Sequence:

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>OriGene 5' read for NM_000859 unedited
CCCAATTTGTAATACGACTCACTTATAGGGCGGCCGGAATTCGCACGAGGCGGCCCGG
GGTTCCGGTGGCCTCTAGTGAGATCTGGAGGATCCAAGGATTCTGTAGCTACAATGTTGTC
AAGACTTTTTCGAATGCATGGCCTCTTTGTGGCCTCCCATCCCTGGGAAGTCATAGTGGG
GACAGTGACACTGACCATCTGCATGATGCCATGAACATGTTTACTGGTAACAATAAGAT
CTGTGGTTGGAATTATGAATGTCCAAAGTTTGAAGAGGATGTTTTGAGCAGTGACATTAT
AATTCTGACAATAACACGATGCATAGCCATCCTGTATATTTACTTCCAGTCCAGAAATTT
ACGTCAACTTGGATCAAAATATATTTTGGGTATTGCTGGCCTTTTCACAATTTTCTCAAG
TTTTGTATTACAGTACAGTTGTCATTCACTTCTTAGACAAAAGAATTGACAGGCTTGAATGA
AGCTTTGCCCTTTTCTACTTTTGATTGACCTTTCCAGAGCAAGCACATTAGCAAAGTT
TGCCCTCAGTTCCAACCTCACAGGATGAAGTAAGGGAAAAATATTGCTCGTGGAAATGGCAAT
TTTAGGCTCTACGTTTACCCTCGATGCTCTTGTGAATGTCTTGTGATTGGAGTTGGTAC
CATGTCAGGGGTACGTCAGCTTGAATATGTGCTGCTTTGGCTGCATGTCAGTTCTTGC
CAACTACTTCGTGTTTCATGACTTCTTCCAGCTTGTGTGCTTGGTATTAGAGCTTCT
CTCGAAAGCCGCGAGGGTCTGCAATTTGGCAGCTCAGCCATTNTGCCGAGNTTATA
AGAAGAAGAAATAGCCGAATCCTGTACTCAGAGGGTCAAGATGATATGCTCAAGCTTGG
NTCTTGNTCATGTACAGTCGTGGATAGCTGATCCTCTCTTAAACGTACAGAATCA
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3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_000859 unedited
ATGGACCCGGGGCCGAATCTAGTATCGAGTTTTTTTTTTTTTTTTTTTGTAAACAAAAT
AAGGAGTCTTTATTATTTATACAAAACCTGTACATTAATAAATAAGATTCAATAACT
CTGCTGACCCCTGAGAAAGCTAAGAGCGTTCGTGGGTCCATCAAGAGCCCTGTGTGAA
TGTTTCAGTCACCAACCTCCTGGCCACAGAACTAGGCACAGTTCTAGGGCCATTACAGT
GGCTCCTTCACTGGCTCTGAAAGCTGACTTTCCTTTTATTAAAGCTCGGCAAGCAAGCCA
GGGTTTCTGGACAACATTAAGAACATTATCTTCTCTGGCCAGGCTAGAGTATTTTAT
CAGTACACAAGTTGATTTTTATTCTTGAACACTTCCAATAAACTAGCATAAGTTTTATT
ACAACATATACAGATTTGATACAGTTTACAAAAAACTAGATTTTTCACTAAATAAAA
ATGTCTTTAAGCAATTAAGTTGGCTTAGAGACATGGTATTTTTCTTTCAAACCTGTGT
TTCTACAATGATTTCTAAGGTCCAGTCTTGTGTTACTTGACAGTCACCCTCATCTAAG
CAACATTAAGAGCTCTGATATCTTTAGTAAAGAATACAAAACCTGTGTTTCTTAAAGC
CTAATGCTGAAAGACATGTTATAGCCAATCCAGACAACATTTATTTTAAACATTTATA
TTTAAACAAAAGGCCTCTCTGAACAAATAGCCTGCAGAGATAAATACAGGGATTTGTTT
TCCTGATAGACTATTTAGCATGTTTACACATTATTCTGAGTTTGGGATAAGAGTGTCTT
TCCCTTGAGAAAACAGTCCCTCTGAGAATATGCTGATACCCCAATCAATAGACAGC
CCAATGAATTTATTTACAACCTGGACTTAACCTACTTTACTCTTGAGTTCCATCCAACAT
TATTACTCCAACG
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Restriction Sites:

NotI-NotI

ACCN:

NM_000859

Insert Size:

4150 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_000859.1](#), [NP_000850.1](#)

RefSeq Size: 4471 bp

RefSeq ORF: 2667 bp

Locus ID: 3156

UniProt ID: [P04035](#)

Cytogenetics: 5q13.3

Domains: HMG-CoA_red

Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Metabolic pathways, Terpenoid backbone biosynthesis

Gene Summary:

HMG-CoA reductase is the rate-limiting enzyme for cholesterol synthesis and is regulated via a negative feedback mechanism mediated by sterols and non-sterol metabolites derived from mevalonate, the product of the reaction catalyzed by reductase. Normally in mammalian cells this enzyme is suppressed by cholesterol derived from the internalization and degradation of low density lipoprotein (LDL) via the LDL receptor. Competitive inhibitors of the reductase induce the expression of LDL receptors in the liver, which in turn increases the catabolism of plasma LDL and lowers the plasma concentration of cholesterol, an important determinant of atherosclerosis. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Aug 2008]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longer isoform (1). Variants 1 and 3 both encode the same isoform (1).