

Product datasheet for **RC207224**

GCLM (NM_002061) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GCLM (NM_002061) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GCLM
Synonyms:	GLCLR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC207224 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCACCGACAGCCGCGCGGCCAAGGCGCTCCTGGCGCGGGCCCGCACCTGCACCTGCAGACGGGA
ACCTGCTGAAGTGGGGCCGCTGCGGAAGAAGTGGCCGTCCACGCACAGCGAGGAGCTTCATGATTGTAT
CCAAAAACCTTGAATGAATGGAGTTCCAAATCAACCCAGATTTGGTCAGGGAGTTTCCAGATGTCTTG
GAATGCACTGTATCTCATGCAGTAGAAAAGATAAATCCTGATGAAAGAGAAGAAATGAAAGTTTCTGCAA
AACTGTTCAATTGTAGAATCAAATCTTCATCATCAACTAGAAGTGCAGTTGACATGGCCTGTTCACTCCT
TGGAGTTGCACAGCTGGATTCTGTGATCATTGCTTCACCTCCTATTGAAGATGGAGTTAATCTTTCTTG
GAGCATTTACAGCCTTACTGGGAGGAATTAGAAAACTTAGTTCAGAGCAAAAAGATTGTTGCCATAGGTA
CCTCTGATCTAGACAAAACACAGTTGGAACAGCTGTATCAGTGGGCACAGGTAAACCAATAGTAACCA
AGTTAATCTTGCCTCCTGCTGTGTGATGCCACCAGATTGACTGCATTTGCTAAACAATTGACATACAG
CTGTTGACTCACAATGATCCAAAAGAACTGCTTCTGAAGCAAGTTTCCAAGAAGCTCTTCAGGAAAGCA
TTCCTGACATTCAAGCGCACGAGTGGGTGCCGCTGTGGCTACTGCGGTATTCGGTCATTGTGAAAAGTAG
AGGAATTATCAAATCAAAGGCTACATTTACAAGCTAAAAGAAGGGTTCT

ACGCGTACGCGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC207224 protein sequence
 Red=Cloning site Green=Tags(s)

MGTDSSRAAKALLARARTLHLQTGNLLNWGRLRKKCPSTHSEELHDCIQKTLNEWSSQINPDLVREFPDVL
 ECTVSHAVEKINPDEREEMKVSAKLFIVESNSSSTRSAVDMACSVLGVAQLDSVIIASPPIEDGVNLSL
 EHLQPYWEELENLVQSKKIVAIGTSDLKTQLEQLYQWQVKNPNQVNLASCCVMPPDLTAFKQFDIQ
 LLTHNDPKELLSEASFQEALQESIPDIQAHEWPLWLLRYSVIVKSRGIKSKGYILQAKRRGS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6023_e09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002061

ORF Size: 822 bp

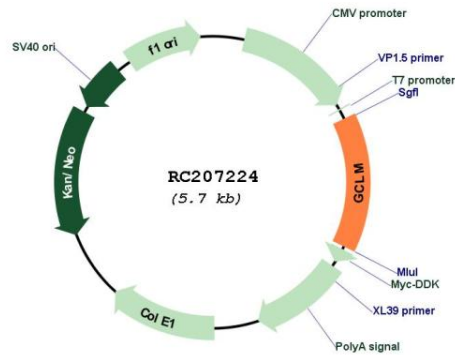
OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA 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](#)

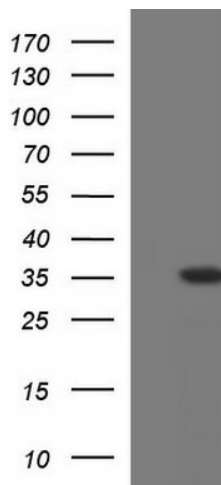
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:	<ol style="list-style-type: none"> 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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	<u>NM_002061.4</u>
RefSeq Size:	3074 bp
RefSeq ORF:	825 bp
Locus ID:	2730
UniProt ID:	<u>P48507</u>
Cytogenetics:	1p22.1
Protein Families:	Druggable Genome
Protein Pathways:	Glutathione metabolism, Metabolic pathways
MW:	30.7 kDa
Gene Summary:	Glutamate-cysteine ligase, also known as gamma-glutamylcysteine synthetase, is the first rate limiting enzyme of glutathione synthesis. The enzyme consists of two subunits, a heavy catalytic subunit and a light regulatory subunit. Gamma glutamylcysteine synthetase deficiency has been implicated in some forms of hemolytic anemia. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Apr 2015]

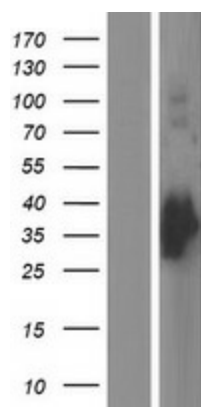
Product images:



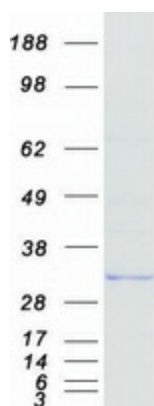
Circular map for RC207224



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GCLM (Cat# RC207224, 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-GCLM (Cat# [TA590111]). Positive lysates [LY400752] (100ug) and [LC400752] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400752]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC207224 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GCLM protein (Cat# [TP307224]). The protein was produced from HEK293T cells transfected with GCLM cDNA clone (Cat# RC207224) using MegaTran 2.0 (Cat# [TT210002]).