

Product datasheet for **RC231330**

GCLC (NM_001197115) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GCLC (NM_001197115) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GCLC
Synonyms:	GCL; GCS; GLCL; GLCLC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC231330 representing NM_001197115
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGGGCTGCTGTCCAGGGCTCGCCGCTGAGCTGGGAGGAAACCAAGCGCCATGCCAGCACGTGCGGC
 GGCACGGGATCCTCCAGTTCCTGCACATCTACCACGCCGTCAAGGACCGGCACAAGGACGTTCTCAAGT
 GGGCGATGAGGTGGAATACATGTTGGTATCTTTTATCATGAAAAATAAAAAAGTCCGGTTGGTCTGCT
 GGGGAGAAAGTCTTGAACCTCTGCAAGAGAAGGGGAAAGGACAAACCAACCATCTACCCTTTGGA
 GACCAGAGTATGGGAGTTACATGATTGAAGGGACACCAGGACAGCCCTACGGAGGAACAATGTCGAGTT
 CAATACAGTTGAGGCCAACATGCGAAAACGCCGGAAGGAGGCTACTTCTATATTAGAAGAAAATCAGGCT
 CTTTGCACAATAACTTCATTTCCAGTACCTTAACAAGAAATATCCGACATAGGAGAGGAGAAAAGTTG
 TCATCAATGTACCAATATTTAAGGACAAGAATACACCATCTCCATTTATAGAAACATTTACTGAGGATGA
 TGAAGCTTCAAGGGCTTCTAAGCCGGATCATATTTACATGGATGCCATGGGATTTGGAATGGCAATTGC
 TGCTCCAGGTGACATCCAAGCCTGCAGTATATCTGAGGCCAGATACCTTTATGATCAGTTGGCTACTA
 TCTGTCCAATTGTTATGGCTTGTAGTGTGCATCTCCCTTTTACCAGGGCTATGTGTCAGACATTGATTG
 TCGCTGGGGAGTGATTTCTGCATCTGTAGATGATAGAACTCGGGAGGAGCGAGGACTGGAGCCATTGAAG
 AACAACTATAGGATCAGTAAATCCCGATATGACTCAATAGACAGCTATTTATCTAAGTGTGGTGA
 AATATAATGACATCGACTTGACGATAGATAAAGAGATCTACGAACAGCTGTTGCAGGAAGGCATTGATCA
 TCTCCTGGCCAGCATGTTGCTCATCTCTTTATTAGAGACCCACTGACTGTTTGAAGAGAAAAACAC
 CTGGATGATGCTAATGAGTCTGACCATTTGAGAATATTCAGTCCACAAATGGCAGACAATGAGATTTA
 AGCCCCCTCCTCAAACCTCAGACATTGGATGGAGAGTAGAATTTGACCCATGGAGGTGCAATTAACAGA
 CTTTGAGAACTCTGCCTATGTGGTGTGGTGGTACTGCTCACCAGAGTATCCTTTCTACAAATTGGAT
 TTTCTCATTCCACTGTCAAAGTTGATGAGAACATGAAGGTAGCACAGAAAAGAGATGCTGTCTTGCAGG
 GAATGTTTTATTTAGGAAAGATATTTGCAAAGGTGGCAATGCAGTGGTGGATGGTTGTGCAAGGCCCA
 GAACAGCACGGAGCTCGCTGCAGAGGAGTACACCCTCATGAGCATAGACACCATCATCAATGGGAAGGAA
 GGTGTGTTTCTGGACTGATCCCAATTCTGAACCTTACCTTGAACACATGGAAGTGGATGTGGACACCA
 GATGTAGTATTCTGAACCTAAAGCTAATTAAGAAGAGAGCATCTGGAGAATAATGACAGTTGCCAG
 ATGGATGAGGGAGTTTATCGCAAACCTCCTGACTACAAGCAAGACAGTGCATAACTGATGAAATGAAT
 TATAGCCTTATTTGAAGTGAACCAAATGCAAATGAATTATGTGAATGCCAGAGTACTTGGATCAG
 CATTTAGGAAAGTAAAATATAGTGAAGTAAAACCTGACTCATCCAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC231330 representing NM_001197115
 Red=Cloning site Green=Tags(s)

MGLLSQGSPLSWEETKRHADHVRRHGILQFLHIYHAVKDRHKDVLKWGDEVEYMLVSFDHENKKVRLVLS
 GEKVLETLQEKGERTNPNHPTLWRPEYGSYMIETPGQPYGGTMSEFNTVEANMRKRKEATSILEENQA
 LCTITSPSTLTRNIRHRRGEKVVINVPVIFKDKNTPSPFIEFTEDDEASRASKPDHIYMDAMGFMGNC
 CLQVTFQACSISEARYLYDQLATICPIVMALSAASPFYRGYVSDIDCRWGVISASVDDRTREERGLEPLK
 NNNYRISKSRYSYLSKCGEKYNDIDLTDIDKEIYEQLLQEGIDHLLAQHVAHLFIRDPLTLFEEKIH
 LLDANESDHFENIQSTNWQTMRFKPPPPNSDIGWRVEFRPMEVQLTDFENSAYVVFVLLTRVILSYKLD
 FLIPLSKVDENMKVAQKRDAVLQGMFYFRKDICKGGNAVVDGCGKAQNSTELAAEYTLMSIDTIINGKE
 GVFPGLIPILNSYLENMEVDVDRCSILNYLKLKIKRASGELMTVARWMREFIANHPDYKQDSVITDEM
 YSLILKCNQIANELCEPELLGSAFRKVKYSGSKTDSSN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk8069_b01.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001197115

ORF Size: 1797 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.
 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_001197115.2](#)

RefSeq ORF: 1800 bp

Locus ID: 2729

UniProt ID: [P48506](#)

Cytogenetics: 6p12.1

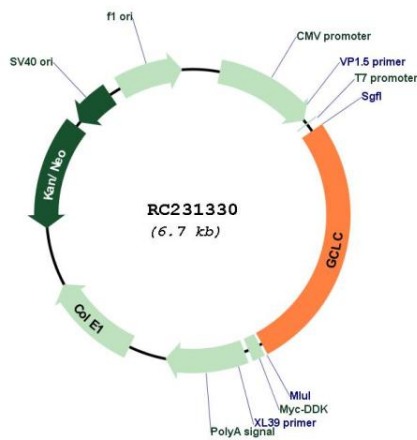
Protein Families: Druggable Genome

Protein Pathways: Glutathione metabolism, Metabolic pathways

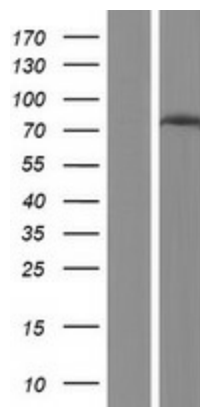
MW: 69.1 kDa

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. This locus encodes the catalytic subunit, while the regulatory subunit is derived from a different gene located on chromosome 1p22-p21. Mutations at this locus have been associated with hemolytic anemia due to deficiency of gamma-glutamylcysteine synthetase and susceptibility to myocardial infarction.[provided by RefSeq, Oct 2010]

Product images:



Circular map for RC231330



Western blot validation of overexpression lysate (Cat# [LY434329]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC231330 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).