

Product datasheet for **RG207915**

GCLC (NM_001498) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GCLC (NM_001498) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GCLC
Synonyms:	GCL; GCS; GLCL; GLCLC
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG207915 representing NM_001498
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGGGCTGCTGTCCAGGGCTCGCCGCTGAGCTGGGAGGAAACCAAGCGCCATGCCAGCACGTGCGGC
 GGCACGGGATCCTCCAGTTCCTGCACATCTACCACGCCGTC AAGGACCGGCACAAGGACGTTCTCAAGTG
 GGGCGATGAGGTGGAATACATGTTGGTATCTTTTATCATGAAAAATAAAAAAGTCCGGTTGGTCCTGTCT
 GGGGAGAAAGTTCCTGAAACTCTGCAAGAGAAGGGGAAAGGACAAACCAACCATCTACCCTTTGGA
 GACCAGAGTATGGGAGTTACATGATTGAAGGGACACCAGGACAGCCCTACGGAGGAACAATGTCGAGTT
 CAATACAGTTGAGGCCAACATGCGAAAACGCCGGAAGGAGGCTACTTCTATATTAGAAGAAAATCAGGCT
 CTTTGACAATAACTTCATTTCCAGATTAGGCTGTCTGGGTTCACTGCCCAGGTCAAACCAAC
 CAGTGAAGGAGGAGCTCCAAGTCCCTCTTTCCAGATGAAGCAATAACAAGCACCCCTCGCTTCAG
 TACCTTAAACAAGAAATATCCGACATAGGAGAGGAGAAAAGTTGTCATCAATGTACCAATATTTAAGGAC
 AAGAATACACCATCTCCATTTATAGAAACATTTACTGAGGATGATGAAGCTTCAAGGGCTTCTAAGCCGG
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 CAGTATATCTGAGGCCAGATACCTTTATGATCAGTTGGCTACTATCTGTCCAATTGTTATGGCTTTGAGT
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 TAGATGATAGAACTCGGGAGGAGCGAGGACTGGAGCCATTGAAGAACAATAACTATAGGATCAGTAAATC
 CCGATATGACTCAATAGACAGCTATTTATCTAAGTGTGGTGAGAAATAAATGACATCGACTTGACGATA
 GATAAAGAGATCTACGAACAGCTGTTGCAGGAAGGCATTGATCATCTCTGGCCAGCATGTTGCTCATC
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 AGTACACCCTCATGAGCATAGACACCATCATCAATGGGAAGGAGGTGTGTTTCTGGACTGATCCCAAT
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 CTAATTAAGAAGAGGCATCTGGAGAATAATGACAGTTGCCAGATGGATGAGGGAGTTTATCGCAAACC
 ATCCTGACTACAAGCAAGACAGTGTCAACTGATGAAATGAATTATAGCCTATTTTGAAGTGTAAACCA
 AATTGCAATGAATTATGTGAATGCCAGAGTTACTTGGATCAGCATTTAGGAAAGTAAAATATAGTGGA
 AGTAAAACCTGACTCATCCAAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

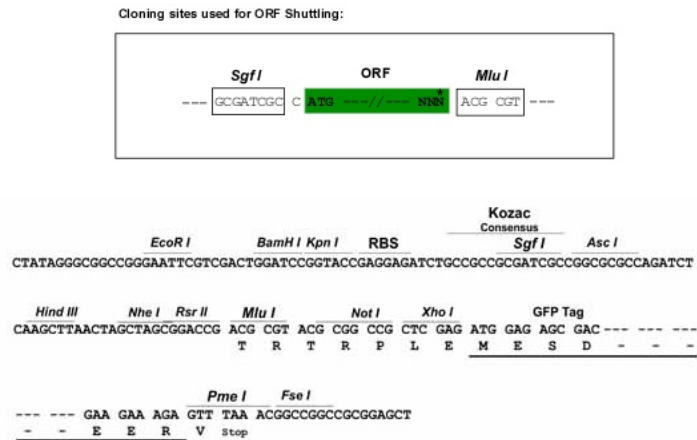
>RG207915 representing NM_001498
 Red=Cloning site Green=Tags(s)

MGLLSQGSPLSWEETKRHADHVRHGHILQFLHIYHAVKDRHKDVLKVGDEVEYMLVSFDHENKKVRLVLS
 GEKVLLETLQEKGERTNPNHPTLWRPEYGSYMIETPGQPYPYGGTMSEFNTVEANMRKRKEATSILEENQA
 LCTITSPRLGCPGFTLPEVKPNPVEGGASKSLFFPDEAINKHPRFSTLTRNIRHRRGEKVVINVPFKD
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 AASPFYRGYVSDIDCRWGVISASVDDRTREERGLEPLKNNYRISKSRYDSIDSYLSKCGEYNDIDLTI
 DKEIYEQLLQEGIDHLLAQHVAHLFIRDPLTLFEEKIHLDDANESDHFENIQSTNWTMRFKPPPNSDI
 GWRVEFRPMEVQLTDFENSAYVVFVLLTRVILSYKLDLFIPLSKVDENMKVAQKRDAVLQGMFYFRKDI
 CKGGNAVVDGCGKAQNSTELAAEYTLMSIDTIINGKEGVFPGLIPILNSYLENMEVDVDRCSILNYLK
 LIKKRASGELMTVARWMREFIANHPDYKQDSVITDEMNYSLILKCNQIANELCEPELLGSAFRKKVYKSG
 SKTDSSN

TRTRPLE – GFP Tag – V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001498

ORF Size: 1911 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_001498.4](#)

RefSeq Size: 3717 bp

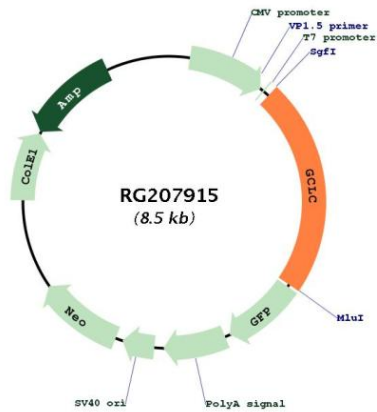
RefSeq ORF: 1914 bp

Locus ID: 2729

UniProt ID: [P48506](#)

Cytogenetics:	6p12.1
Domains:	GCS
Protein Families:	Druggable Genome
Protein Pathways:	Glutathione metabolism, Metabolic pathways
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 RG207915