

## Product datasheet for **RG204870**

### GCAT (NM\_014291) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	GCAT (NM_014291) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GCAT
Synonyms:	KBL
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG204870 representing NM_014291 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTGGCCTGGGAACGCCTGGCGCGCCGACTCTTCTGGGTGCCCGGGCCGCCGCGCACAGTCAGCGC  
TGGCCCAGCTGCGTGGCATTCTGGAGGGGGAGCTGGAAGGCATCTGCGGAGCTGGCACTTGAAGAGTGA  
GCGGGTCATCACGTCCCCTCAGGGGCCGCACATCCGCGTGGACGGCGTCTCCGGAGGAATCCTTAACCTC  
TGTGCCAACAACTACCTGGCCTGAGCAGCCACCCTGAGGTGATCCAGGCAGTCTGCAGGCTCTGGAGG  
AGTTTGGAGCTGGCCTCAGCTCTGTCCGCTTTATCTGTGGAACCCAGAGCATCCACAAGAATCTAGAAGC  
AAAAATAGCCCGTTCCACCAGCGGGAGGATGCCATCCTCTATCCAGCTGTTATGACGCCAACGCCGGC  
CTCTTTGAGGCCCTGCTGACCCCAGAGGACGCAGTCTGTGCGACGAGCTGAACCATGCCTCCATCATCG  
ACGGCATCCGGCTGTGCAAGGCCCAAGTACCGCTATCGCCACCTGGACATGGCCGACCTAGAAGCCAA  
GCTGCAGGAGGCCAGAAGCATCGGCTGCGCCTGGTGGCCACTGATGGGGCCTTTTCCATGGATGGCGAC  
ATCGCACCCCTGCAGGAGATCTGCTGCCTCGCCTCTAGATATGGTGCCTGGTCTTCATGGATGAATGCC  
ATGCCACTGGCTTCTGGGGCCACAGGACGGGGCACAGATGAGCTGCTGGGTGTGATGGACCAGGTAC  
CATCATCAACTCCACCCTGGGGAAGGCCCTGGGTGGAGCATCAGGGGGCTACACGACAGGGCCTGGGCC  
CTGGTGTCCCTGCTGCGGCAGCGGCCGCCATACCTTCTCCAACAGTCTGCCACCTGCTGTGCTGTTG  
GCTGCGCCTCCAAGGCCCTAGATCTGCTGATGGGGAGTAACACCATTGTCCAGTCTATGGCTGCCAAGAC  
CCAGAGGTTCCGTAGTAAGATGGAAGCTGCTGGCTTCACTATCTCGGGAGCCAGTCACCCCATCTGCCCT  
GTGATGCTGGGTGATGCCCGCTGGCCTCTCGCATGGCGGATGACATGCTGAAGAGAGGCATCTTTGTCA  
TCGGGTTACAGTACCCCGTGGTCCCAAGGGCAAGGCCTGGATCCGGGTACAGATCTCAGCAGTGATAG  
CGAGGAAGACATTGACCCTGCGTGGAGGCCCTCGTGAAGTGGGGCGACTGCACGGGGCACTGCC

**ACGGT**ACGGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >RG204870 representing NM\_014291  
 Red=Cloning site Green=Tags(s)

MWPGNAWRAALFWVPRGRRRAQSALALRGILEGELEGICGAGTWKSERVITSRQGPHIRVDGVS GGILNF  
 CANNYLGLSSHPEVIQAGLQALEEFAGLSSVRFICGTQSIHKNLEAKIARFHQREDAILYPSCYDANAG  
 LFEALLTPEDAVALSDELNHASIIDGIRLCKAHKYRHRHDMADLEAKLQEAQKHRLRLVATDGFASMDGD  
 IAPLQEIICCLASRYGALVFMDECHATGFLGPTGRGTDELLGVMDQVTIINSTLGKALGGASGGYTTGPGP  
 LVSLLRQRARPYLFSNSLPPAVVGCASKALDLLMGSNTIVQSMAAKTQRFRSKMEAAGFTTISGASHPICP  
 VMLGDARLASRMADDMLKRGIFVIGFSYPVVPKGAWIRVQISAVHSEEDIDRCVEAFVEVGRHLHGALP

TRTRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_014291

**ORF Size:** 1257 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\\_014291.2](#), [NP\\_055106.1](#)

**RefSeq Size:** 1470 bp

**RefSeq ORF:** 1260 bp

**Locus ID:** 23464

**UniProt ID:** [O75600](#)

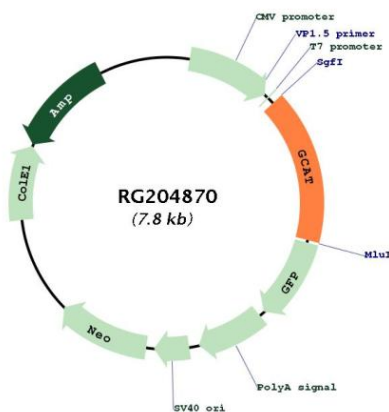
**Cytogenetics:** 22q13.1

**Domains:** aminotran\_1\_2

**Protein Pathways:** Glycine, serine and threonine metabolism

**Gene Summary:** The degradation of L-threonine to glycine consists of a two-step biochemical pathway involving the enzymes L-threonine dehydrogenase and 2-amino-3-ketobutyrate coenzyme A ligase. L-Threonine is first converted into 2-amino-3-ketobutyrate by L-threonine dehydrogenase. This gene encodes the second enzyme in this pathway, which then catalyzes the reaction between 2-amino-3-ketobutyrate and coenzyme A to form glycine and acetyl-CoA. The encoded enzyme is considered a class II pyridoxal-phosphate-dependent aminotransferase. Alternate splicing results in multiple transcript variants. A pseudogene of this gene is found on chromosome 14. [provided by RefSeq, Jan 2010]

## Product images:



Circular map for RG204870