

## Product datasheet for SC127864

### GCAT (NM\_014291) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	GCAT (NM_014291) Human Untagged Clone
Tag:	Tag Free
Symbol:	GCAT
Synonyms:	KBL
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC127864 sequence for NM_014291 edited (data generated by NextGen Sequencing)

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ATGTGGCCTGGGAACGCCTGGCGCGCCGCACTTCTCTGGGTGCCCGCGCCGCCGCGCA
CAGTCAGCGCTGGCCAGCTGCGTGGCATTCTGGAGGGGAGCTGGAAGGCATCCGCGGA
GCTGGCACTTGGAAAGTGAGCGGGTCATCACGTCCCCTCAGGGGCCGCACATCCGCGTG
GACGGCGTCTCCGGAGGAATCCTTAACCTCTGTGCCAACAACTACCTGGGCCTGAGCAGC
CACCTGAGGTGATCCAGGCAGGTCTGCAGGCTCTGGAGGAGTTGGAGCTGGCCTCAGC
TCTGTCCGCTTTATCTGTGGAACCCAGAGCATCCACAAGAATCTAGAAGCAAAAATAGCC
CGCTTCCACCAGCGGGAGGATGCCATCCTCTATCCAGCTGTTATGACGCCAACGCCGGC
CTCTTTGAGGCCCTGCTGACCCAGAGGACGCAGTCTGTGCGACGAGCTGAACCATGCC
TCCATCATCGACGGCATCCGGCTGTGCAAGGCCACAAGTACCGCTATCGCCACCTGGAC
ATGGCCGACCTAGAAGCCAAGCTGCAGGAGGCCAGAAGCATCGGCTGCGCCTGGTGGCC
ACTGATGGGGCCTTTTCCATGGATGGCGACATCGACCCCTGCAGGAGATCTGCTGCCTC
GCCTCTAGATATGGTGCCTGGTCTTTCATGGATGAATGCCATGCCACTGGCTTCTGGGG
CCCACAGGACGGGGCACAGATGAGCTGCTGGGTGTGATGGACCAGGTACCCATCATCAAC
TCCACCTGGGGAAGGCCCTGGGTGGAGCATCAGGGGGCTACACGACAGGGCCTGGGGCC
CTGGTGTCCCTGCTGCGGCAGCGCGCCCGGCCATACCTCTTCCAACAGTCTGCCACCT
GCTGTCTGTTGGTGCCTCCAAGGCCCTAGATCTGCTGATGGGGAGTAACACCATTGTC
CAGTCTATGGCTGCCAAGACCCAGAGGTTCCGTAGTAAGATGGAAGCTGCTGGCTTCACT
ATCTCGGGAGCCAGTCACCCCATCTGCCCTGTGATGCTGGGTGATGCCCGGCTGGCCTCT
CGCATGGCGGATGACATGCTGAAGAGAGGCATCTTTGTCATCGGGTTACGCTACCCCGTG
GTCCCAAGGGCAAGGCCGGATCCGGGTACAGATCTCAGCAGTGCATAGCGAGGAAGAC
ATTGACCGCTGCGTGGAGGCCTTCGTGGAAGTGGGGCGACTGCACGGGGCACTGCCCTGA

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Clone variation with respect to NM\_014291.3



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<b>5' Read Nucleotide Sequence:</b>	>OriGene 5' read for NM_014291 unedited NGTCAAATTTGTATACGACTCATATAGGCGGCCGCGATTCCGAGGTAGAGCGATGTGGC CTGGGAACGCCTGGCGCGCCGCACTCTTCTGGGTGCCCGCGCCGCGCCGCGCACAGTCAG CGCTGGCCAGCTGCGTGGCATTCTGGAGGGGAGCTGGAAGGCATCCGCGGAGCTGGCA CTTGGAAGAGTGAGCGGGTCATCACGTCCCCTCAGGGGCCGACATCCGCGTGGACGGCG TCTCCGGAGGAATCCTTAACTTCTGTGCCAACAACTACCTGGCCTGAGCAGCCACCCTG AGGTGATCCAGGCAGGTCTGCAGGCTCTGGAGGAGTTTGGAGCTGGCCTCAGCTCTGTCC GCTTTATCTGTGGAACCCAGAGCATCCACAAGAATCTAGAAGCAAAAATAGCCCGCTTCC ACCAGCGGGAGGATGCCATCCTCTATCCCAGCTGTTATGACGCCAACGCCGGCCTCTTTG AGGCCCTGCTGACCCAGAGGACGAGTCTGTGCGACGAGCTGAACCATGCCTCCATCA TCGACGGCATCCGGCTGTGCAAGGCCCAAGTACCGCTATCGCCACCTGGACATGGCCG ACCTAGAAGCCAAGCTGCAGGAGGCCAGAAAGCATCGGCTGCGCCTGGTGGCCACTGATG GNGCCTTTTCCATGGATGGGACATCGCACCCCTGCANGAGATCTGCTGCCTCGCCTCTA GATATGGTGCCCTGGTCTTCATGGATGAATGCCATGCCACTGGCTTCTGGGGCCACAG GACNNGGCACAGATGAGCTGCTGGGTGTGATGGACCAGGTCACCATCATCAACTCCACCC TGGGAAANGCCCTGGTGGAGCATCAAGGGGCTACACGACAGGGCCTGGGCCCTGTG TCCTGCTGCGCAGCGCGCCCGGCATACCTTCTCAAAGTCTGCAACTGCTG
<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	NM_014291
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_014291.2</a> , <a href="#">NP_055106.1</a>
<b>RefSeq Size:</b>	1470 bp
<b>RefSeq ORF:</b>	1260 bp
<b>Locus ID:</b>	23464
<b>UniProt ID:</b>	<a href="#">O75600</a>
<b>Cytogenetics:</b>	22q13.1
<b>Domains:</b>	aminotran_1_2
<b>Protein Pathways:</b>	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]

**Transcript Variant:** This variant (2) differs in the 3' UTR and uses an alternate splice site in the coding region, compared to variant 1. The encoded isoform (2) is shorter than isoform 1.

**Sequence Note:** This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.