

## Product datasheet for SC118847

### Glutamine Synthetase (GLUL) (NM\_002065) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glutamine Synthetase (GLUL) (NM_002065) Human Untagged Clone
Tag:	Tag Free
Symbol:	Glutamine Synthetase
Synonyms:	GLNS; GS; PIG43; PIG59
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_002065 edited  
 GAATTCGGCAGCAGGGCGGAGCGTGTGAGCAGTACTGCGGCCTCCTCTCCTCCTAACC  
 TCGCTCTCGCGGCTAGCTTTACCGCCCGCTGCTCGGCGACCAGAACACCTTCCACCA  
 TGACCACCTCAGCAAGTTCCCACTTAAATAAAGGCATCAAGCAGGTGTACATGTCCCTGC  
 CTCAGGGTGAGAAAGTCCAGGCCATGTATATCTGGATCGATGGTACTGGAGAAGGACTGC  
 GCTGCAAGACCCGGACCCTGGACAGTGAGCCCAAGTGTGTGGAAGAGTTGCCTGAGTGGA  
 ATTTTCGATGGCTCTAGTACTTTACAGTCTGAGGGTTCCAACAGTGACATGTATCTCGTGC  
 CTGCTGCCATGTTTCGGGACCCCTTCCGTAAGGACCCTAACAAGCTGGTGTATGTGAAG  
 TTTTCAAGTACAATCGAAGGCCTGCAGAGACCAATTTGAGGCACACCTGTAACGGATAA  
 TGGACATGGTGAGCAACCAGCACCCCTGGTTTGGCATGGAGCAGGAGTATACCCTCATGG  
 GGACAGATGGGCACCCCTTTGGTTGGCCTTCCAACGGCTTCCCAGGGCCCAGGGTCCAT  
 ATTACTGTGGTGTGGGAGCAGACAGAGCCTATGGCAGGGACATCGTGGAGGCCATTACC  
 GGGCCTGCTTGTATGCTGGAGTCAAGATTGCGGGGACTAATGCCGAGGTATGCCTGCC  
 AGTGGGAATTTAGATTGGACCTTGTGAAGGAATCAGCATGGGAGATCATCTCTGGGTGG  
 CCCGTTTCATCTTGCATCGTGTGTGGAAGACTTTGGAGTGATAGCAACCTTTGATCCTA  
 AGCCCATTCCTGGGAAGTGGAAATGGTGCAGGCTGCCATACCAACTTCAGCACCAAGGCCA  
 TGCGGGAGGAGAATGGTCTGAAGTACATCGAGGAGGCCATTGAGAACTAAGCAAGCGGC  
 ACCAGTACCACATCCGTGCCTATGATCCCAAGGGAGGCCTGGACAATGCCCGACGTCTAA  
 CTGGATTCCATGAAACCTCCAACATCAACGACTTTTCTGCTGGTGTAGCCAATCGTAGCG  
 CCAGCATACGCATTCGCCGACTGTTGGCCAGGAGAAGAAGGGTTACTTTGAAGATCGTC  
 GCCCTCTGCCAACTGCGACCCCTTTTCGGTGACAGAAGCCCTCATCCGCACGTGTCTTC  
 TCAATGAAACCGCGATGAGCCCTTCCAGTACAAAAATTAAGTGGACTAGACCTCCAGCT  
 GTTGAGCCCTCCTAGTTCTTCACTCCCACTCCAACCTCTCCCCCTCTCCAGTTGTCCCG  
 ATTGTAACCAAAGGGTGAATATCAAGGTCGTTTTTTTCATTCCAAAAA  
 AAAAAAACTCGAC



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<b>5' Read Nucleotide Sequence:</b>	<p>&gt;OriGene 5' read for NM_002065 unedited</p> <pre> ATTTGTATACGACTCACTATAGGGCGGCCGGAATTCGCACGAGGGCGGAGCGTGTGAGC AGTACTGCGGCCTCCTCTCCTCTCCTAACCTCGCTCTCGCGGCCTAGCTTTACCCGCCCG CCTGCTCGGCGACCAGAACACCTTCCACCATGACCACCTCAGCAAGTTCCCACTTAAATA AAGGCATCAAGCAGGTGTACATGTCCTGCCTCAGGGTGAAGTCCAGGCCATGTATA TCTGGATCGATGGTACTGGAGAAGGACTGCGCTGCAAGACCCGGACCCTGGACAGTGAGC CCAAGTGTGTGGAAGAGTTGCCTGAGTGAATTCGATGGCTCTAGTACTTTACAGTCTG AGGGTTCCAACAGTGACATGTATCTCGTGCCTGCTGCCATGTTTCGGGACCCCTCCGTA AGGACCCTAACAAGCTGGTGTATGTGAAGTTTTCAAGTACAATCGAAGCCTGCAGAGA CCAATTTGAGGCACACCTGTAACCGGATAATGGACATGGTGAAGCAACCAGCACCCCTGGT TTGGCATGGAGCAGGAGTATACCCTCATGGGACAGATGGGCACCCCTTTGGTTGGCCTT CCAACGGCTTCCAGGGCCCCAGGGTCCATATTACTGTGGTGTGGGAGCAGACAGAGCCT ATGGCAGGGACATCGTGGAGGCCATTACCGGCCTGCTTGTATGCTGGAGTCAAGATTG CGNGAACTAATGCCGAGTCATGCCTGCCAGTGGGAATTCAGATTGGACCTTGTGAAG GAATCAGCATGGGAGATCATCTCTGGGTGGCCCGTTTCATCTTGCATCGTGTGTGAAG AACTTGGAGTGATAGCACCC </pre>
<b>3' Read Nucleotide Sequence:</b>	<p>&gt;OriGene 3' read for NM_002065 unedited</p> <pre> GACCGCGCCGCAATCTAGAGTCGAGNTTTTTTTTTTTTTTTTTTTTTTTGGAAATGAAAA AACGACCTTGATATTCCACCCTTTGAGTTACAATCGGGACAACCTGGGAGAGGGGGAAGAG TTGGAGTGGGATGAAAACTAGGAGGGGCTCAACAGCTGGAGGTCTAGTCCACTTAATTT TTGTAAGTGGAGGCTCATCGCCGTTTCATTGAGAAGACACGTGCGGATGAGGGCTTCT GTCACCGAAAAGGGTTCGAGTTGGCAGAGGGGCGACGATCTTCAAAGTAAACCTTCTTC TCCTGGCCAACAGTCCGGGGAATGCGTATGCTGCGCTACCATTGGCTACACCAGCAGAA AAGTCGTTGATGTTGGAGGTTTCATGGAATCCAGTTAGACGTGCGGCATTGTCCAGGCCT CCCTTGGGATCATAGGCACGGATGTGGTACTGGTCCGCTTGCTTAGTTTCTCAATGGCC TCCTCGATGTAATTCAGACCATTCTCCTCCCGCATGGCCTTGGTGTGAGTTGGTATGG CAGCCTGCACCATTCCAGTTCCAGGAATGGGCTTAGGATCAAAGGTTGCTATCACTCCA AAGTCTTCACACACAGTGAAGATGAAACGGGCCACCCAGAGATGATCTNCCATGCTG ATTCCTTCACAAGGTCCAATCTGAAATTCAGTGGCAGGCATGACCTCCGCATTAGTCC CCGCAATCTTACTCCAGCATAAAGCAAGCCCGGTAATGGGCCCTCCACGATGTCCTCG GCCTAGGCTCTGCCTGCCACACCCAGTAATTGGACCCTGGGGCCCTGGAAGCCCTC GGAGGCCACCAAGGGTGCCATCTGGCCACTGAGGGTACTCCTGTCCTGCCAAACAG GGGGCCGGTGGCTACCTGTCTTATCCGTTACGGGGGCCTAAATGGGCTTGGGCCTCAT TGGCCTGAAACTTCCATACCACTGGTAGGGCCTT </pre>
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_002065
<b>Insert Size:</b>	1430 bp
<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).

**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\\_002065.4](#), [NP\\_002056.2](#)

**RefSeq Size:** 3499 bp

**RefSeq ORF:** 1122 bp

**Locus ID:** 2752

**UniProt ID:** [P15104](#)

**Cytogenetics:** 1q25.3

**Domains:** gln-synt, gln-synt\_N

**Protein Pathways:** Alanine, aspartate and glutamate metabolism, Arginine and proline metabolism, Metabolic pathways, Nitrogen metabolism

**Gene Summary:** The protein encoded by this gene belongs to the glutamine synthetase family. It catalyzes the synthesis of glutamine from glutamate and ammonia in an ATP-dependent reaction. This protein plays a role in ammonia and glutamate detoxification, acid-base homeostasis, cell signaling, and cell proliferation. Glutamine is an abundant amino acid, and is important to the biosynthesis of several amino acids, pyrimidines, and purines. Mutations in this gene are associated with congenital glutamine deficiency, and overexpression of this gene was observed in some primary liver cancer samples. There are six pseudogenes of this gene found on chromosomes 2, 5, 9, 11, and 12. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Dec 2014]

Transcript Variant: This variant (1) represents the longest transcript. Both variants 1, 2 and 3 encode the same protein. 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.