

## Product datasheet for **SC320915**

### Glutamine Synthetase (GLUL) (NM\_001033044) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glutamine Synthetase (GLUL) (NM_001033044) Human Untagged Clone
Tag:	Tag Free
Symbol:	Glutamine Synthetase
Synonyms:	GLNS; GS; PIG43; PIG59
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene sequence for NM\_001033044.1  
 CGAGAGTGGGAGAAGAGCGGAGCGTGTGAGCAGTACTGCGGCCTCCTCTCCTCTCCTAAC  
 CTCGCTCTCGGGCCTACCTTTACCCGCCCGCTGCTCGGCGACCAGAACACCTTCCACC  
 ATGACCACCTCAGCAAGTCCCACCTAAATAAAGGCATCAAGCAGGTGTACATGTCCCTG  
 CCTCAGGGTGAGAAAGTCCAGGCCATGTATATCTGGATCGATGGTACTGGAGAAGGACTG  
 CGCTGCAAGACCCGGACCCTGGACAGTGAGCCCAAGTGTGTGGAAGAGTTGCCTGAGTGG  
 AATTTTCGATGGCTAGTACTTTACAGTCTGAGGGTCCCAACAGTGACATGTATCTCGTG  
 CCTGCTGCCATGTTTCGGGACCCCTTCCGTAAGGACCCTAACAAAGCTGGTGTATGTGAA  
 GTTTTCAAGTACAATCGAAGGCCTGCAGAGACCAATTTGAGGCACACCTGTAAACGGATA  
 ATGGACATGGTGAGCAACCAGCACCCCTGGTTTGGCATGGAGCAGGAGTATACCTCATG  
 GGGACAGATGGGCACCCCTTTGGTTGGCCTTCCAACGGCTTCCAGGGCCCCAGGGTCCA  
 TATTACTGTGGTGTGGGAGCAGACAGAGCCTATGGCAGGGACATCGTGGAGGCCATTAC  
 CGGGCCTGCTTGTATGCTGGAGTCAAGATTGCGGGGACTAATGCCGAGGTATGCCTGCC  
 CAGTGGGAATTTAGATTGGACCTTGTGAAGGAATCAGCATGGGAGATCATCTCTGGGTG  
 GCCCGTTTCATCTGCATCGTGTGTGAAGACTTTGGAGTGATAGCAACCTTTGATCCT  
 AAGCCCATTCTGGGAAGTGAATGGTGCAGGCTGCCATACCAACTTCAGACCAAGGCC  
 ATGCGGGAGGAGAATGGTCTGAAGTACATCGAGGAGGCCATTGAGAACTAAGCAAGCGG  
 CACCAGTACCACATCCGTGCCTATGATCCCAAGGGAGGCCCTGGACAATGCCCGACGTCTA  
 ACTGGATTCCATGAAACCTCCAACATCAACGACTTTTCTGCTGGTGTAGCCAATCGTAGC  
 GCCAGCATACGCATTCGCCGACTGTTGGCCAGGAGAAGAAGGGTTACTTTGAAGATCGT  
 CGCCCCCTGCCAACTGCGACCCCTTTTCGGTGACAGAAGCCCTCATCCGCACGTGTCTT  
 CTAATGAAACCCGGCGATGAGCCCTTCCAGTACAAAAAATAAGTGGACTAGACCTCCAGC  
 GTTTGAGCCCTCCTAGTCTTTCATCCCACTCCAACCTTCCCCCTCTCCCAAGTTGTCCT  
 GATTGTAACCAAGGGTGAATATCAAGGTCGTTTTTTTCATTCCATGTGCCAGTTAA  
 TCTTGCTTTCTTTGTTGGCTGGGATAGAGGGTCAAGTTATTAATTTCTCACACCTAC  
 CCTCCTTTTTTCCCTATCACTGAAGCTTTTTAGTGCATTAGTGGGGAGGAGGGTGGGA  
 GACATAACCACTGCTTCCATTTAATGGGGTGCACCTGTCCAATAGGCGTAGCTATCCGA  
 CAGAGCACGTTTGCAGAAGGGGCTCTTCTTCCAGGTAGCTGAAAGGGGAAGACCTGAC  
 GTACTCTGGTTAGGTTAGGACTTGCCTCGTGGTGAACCTTTTCTTAAAAAGTTATAAC  
 CAACTTTTCTATTAAGTGGGAATTAGGAGAGAAGGTAGGGGTTGGGAATCAGAGAGAA  
 TGCTTTGGTCTCTTGTGTGGGACTAGCCTGGCTTGGGACTAAATGCCCTGCTCTGAA  
 CACGAAGCTTAGTATAAACTGATGGATATCCCTACCTTGAAGAAGAAAAGGTTCTTACT  
 GCTTGGTCTTGTATATCACACAAAGCAGAATAGTATTTTTATATTTAAATGTAAGAGC  
 AAAAACTATATGTATGGTTTTGTGGATTATGTGTGTTTTGCTAAAGGAAAAAACCATC  
 CAGGTCACGGGGCACAAATTTGAGACAAATAGTCGGATTAGAAAATAAGCATCTCATT  
 TGAGTAGAGAGCAAGGGAAGTGGTTCTTAGATGGTGTCTGGGATTAGGCCCTCAAGACC  
 CTTTTGGGTTTCTGCCCTGCCACCCTCTGGAGAAGGTGGGCACTGGATTAGTTAACAGA  
 CAACACGTTACTAGCAGTCACTTGATCTCCGTGGCTTTGGTTTAAAAGACACACTGTCC  
 ACATAGGTTTAGAGATAAGAGTTGGCTGGTCAACTTGAGCATGTTACTGACAGAGGGGT  
 ATTGGGGTTATTTCTGGTAGGAATAGCATGTCACTAAAGCAGGCCTTTTGATATTAAT  
 TTTTTAAAAGCAAAATTATAGAAGTTTAGATTTAATCAAATTTGTAGGGTTTCTAGGT  
 AATTTTTACAGAATTGCTTGTGTTGCTTCAACTGTCTCCTACCTCTGCTCTTGGAGGAGT  
 GGGGACAGGGCTGGAGTCAAACACTTGAATTTGTATCTTGTATGCTTTGTTAAGACT  
 GCTGAAGAATTTTTTTTTCTTTTATAATAAGGAATAAACCCACCTTTATTCTTCAT  
 TTCATCTACCATTTCTGGTTCTTGTGTGGCTGTGGCAGGCCAGCTGTGGTTTTCTTT  
 GCCATGACAACTCTAATTGCCATGTACAGTATGTTCAAAGTCAAATAACTCCTCATTGT  
 AAACAACTGTGTAAGTCCCAAAGCAGCACTTATAAATCAGCCTAACATAAAAAAAAAA  
 AAAAAAAAAAAAAA

**Restriction Sites:** Please inquire  
**ACCN:** NM\_001033044

<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>OTI Annotation:</b>	This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.
<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>	<u><a href="#">NM_001033044.1</a></u> , <u><a href="#">NP_001028216.1</a></u>
<b>RefSeq Size:</b>	3143 bp
<b>RefSeq ORF:</b>	1122 bp
<b>Locus ID:</b>	2752
<b>UniProt ID:</b>	<u><a href="#">P15104</a></u>
<b>Cytogenetics:</b>	1q25.3
<b>Protein Pathways:</b>	Alanine, aspartate and glutamate metabolism, Arginine and proline metabolism, Metabolic pathways, Nitrogen metabolism
<b>Gene Summary:</b>	<p>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]</p> <p>Transcript Variant: This variant (2) lacks an exon in the 5' UTR compared to variant 1. 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.</p>