

Product datasheet for RC204161

Glutamine Synthetase (GLUL) (NM_002065) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Glutamine Synthetase (GLUL) (NM_002065) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glutamine Synthetase
Synonyms:	GLNS; GS; PIG43; PIG59
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC204161 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGACCACCTCAGCAAGTCCCACCTAAATAAAGGCATCAAGCAGGTGTACATGTCCCTGCCTCAGGGTG
AGAAAGTCCAGGCCATGTATATCTGGATCGATGGTACTGGAGAAGGACTGCGCTGCAAGACCCGGACCT
GGACAGTGAGCCCAAGTGTGGAAGAGTTGCCTGAGTGGAAATTCGATGGCTCCAGTACTTTACAGTCT
GAGGGTCCAACAGTGACATGTATCTCGTGCCTGCTGCCATGTTTCGGGACCCCTCCGTAAGGACCTA
ACAAGCTGGTGTATGTGAAGTTTTCAAGTACAATCGAAGGCCTGCAGAGACCAATTTGAGGCACACCTG
TAAACGGATAATGGACATGGTGAGCAACAGCACCCCTGGTTTGGCATGGAGCAGGAGTATACCCCATG
GGGACAGATGGGCACCCCTTTGGTTGGCCTTCCAACGGCTTCCCAGGGCCCCAGGGTCCATATTACTGTG
GTGTGGGAGCAGACAGAGCCTATGGCAGGGACATCGTGGAGGCCATTACCGGGCCTGCTGTATGCTGG
AGTCAAGATTGCGGGGACTAATGCCGAGGTCATGCCTGCCAGTGGGAATTTAGATTGGACCTTGTA
GGAATCAGCATGGGAGATCATCTCTGGTGGCCGTTTCATCTTGATCGTGTGTGAAGACTTTGGAG
TGATAGCAACCTTTGATCCTAAGCCATTCTGGGAACGGAATGGTGCAGGCTGCCATACCAACTTCAG
CACCAAGGCCATGCGGGAGGAGAATGGTCTGAAGTACATCGAGGAGGCCATTGAGAACTAAGCAAGCGG
CACCAGTACCACATCCGTGCCTATGATCCCAAGGAGGCCTGGACAATGCCCGAGTCTAACTGGATTCC
ATGAAACCTCCAACATCAACGACTTTTCTGCTGGTGTAGCCAATCGTAGCGCCAGCATAACGATTCCTCCG
GACTGTTGGCCAGGAGAAGAAGGTTACTTTGAAGATCGTCGCCCTCTGCCAACTGCGACCCCTTTTCG
GTGACAGAAGCCCTCATCCGCACGTGTCTTCTCAATGAAACCGCGATGAGCCCTCCAGTACAAAAAT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC204161 protein sequence
Red=Cloning site Green=Tags(s)

MTTSASSHLNKGIKQVYMSLPQGEKVQAMYIWIDGTGEGLRCKTRTL DSEPKCVEELPEWNFDGSSTLQS
EGSNSDMYL VPAAMFRDPFRKDPNKLVLCEVFKYNRRPAETNL RHTCKRIMDMVSNQHPWFGMEQEY TLM
GTDGHPFGWPSNGFPGPQGPYYCGVGADRAYGRDIVEAHYRACLYAGVKIAGTNAEVMPAQWEFQIGPCE
GISMGDHLWVARFILHRVCEDFGVIATFDPKPIPGNWNAGCHTNFSTKAMREENGLKYIEEAIEKLSKR
HQYHIRAYDPKGGLDNARRLTGFHETSNINDFSAGVANRSASIRIPRTVGQEKGYFEDRRPSANCDPFS
VTEALIRTCLLNETGDEPFQYKN

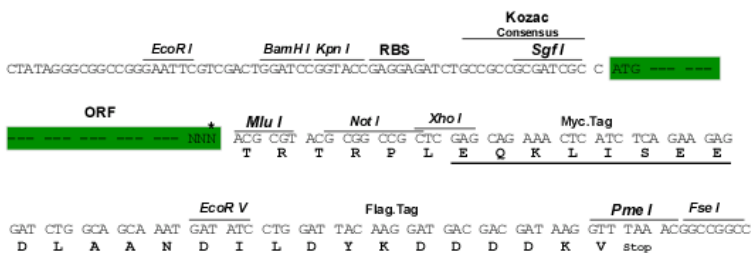
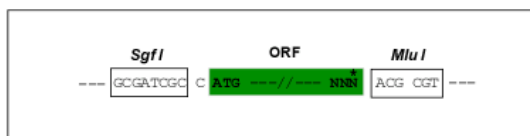
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6058_c10.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_002065

ORF Size: 1119 bp

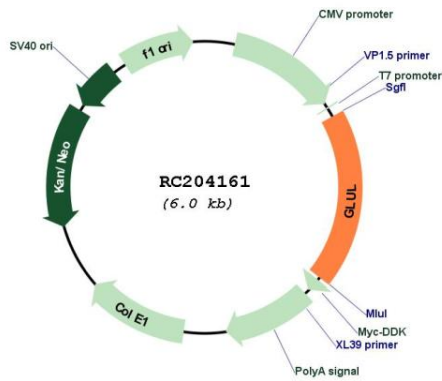
OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially 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.

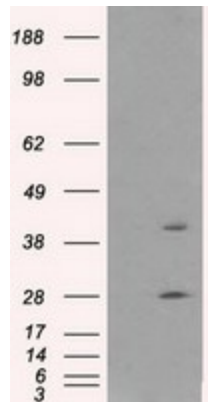
Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:	<ol style="list-style-type: none">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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_002065.3
RefSeq Size:	4737 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
MW:	42.1 kDa
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]

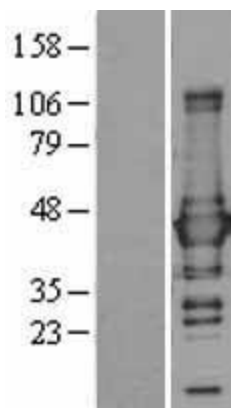
Product images:



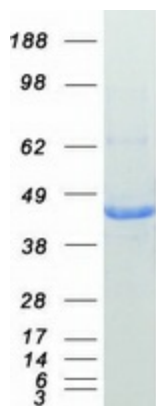
Circular map for RC204161



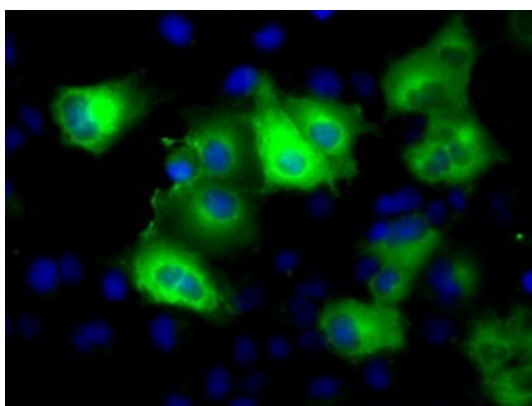
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GLUL (Cat# RC204161, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GLUL (Cat# [TA500700]). Positive lysates [LY400756] (100ug) and [LC400756] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400756]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204161 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GLUL protein (Cat# [TP304161]). The protein was produced from HEK293T cells transfected with GLUL cDNA clone (Cat# RC204161) using MegaTran 2.0 (Cat# [TT210002]).



Anti-GLUL mouse monoclonal antibody ([TA500700]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY GLUL (RC204161).