

## Product datasheet for **SC316073**

### Ionotropic Glutamate receptor 2 (GRIA2) (NM\_001083619) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ionotropic Glutamate receptor 2 (GRIA2) (NM_001083619) Human Untagged Clone
Tag:	Tag Free
Symbol:	Ionotropic Glutamate receptor 2
Synonyms:	GluA2; gluR-2; gluR-B; GluR-K2; GLUR2; GLURB; HBGR2; NEDLIB
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene ORF sequence for NM\_001083619 edited  
 ATGCAAAAGATTATGCATATTTCTGTCCTCTTTCTCCTGTTTTATGGGGACTGATTTTT  
 GGTGTCTCTTCTAACAGCATACAGATAGGGGGCTATTTCTAGGGGCGCCGATCAAGAA  
 TACAGTGCATTTTCGAGTAGGGATGGTTCAGTTTTCCACTTCGGAGTTCAGACTGACACCC  
 CACATCGACAATTTGGAGGTGGCAAACAGCTTCGCAGTCACTAATGCTTTCTGCTCCCAG  
 TTTTCGAGAGGAGTCTATGCTATTTTTGGATTTTATGACAAGAAGTCTGTAATACCATC  
 ACATCATTTTTGCGGAACACTCCAGTCTCCTTCATCACTCCCAGCTTCCCAACAGATGGC  
 ACACATCCATTTGTCATTAGATGAGACCGACCTCAAAGGAGCTCTCCTTAGCTTGATT  
 GAATACTATCAATGGGACAAGTTTGCATACCTCTATGACAGTGACAGAGGCTTATCAACA  
 CTGCAAGCTGTGCTGGATTCTGCTGCTGAAAAGAAATGGCAAGTACTGCTATCAATGTG  
 GGAAACATTAACAATGACAAGAAAGATGAGATGTACCGATCACTTTTTCAAGATCTGGAG  
 TTAATAAGGAACGGCGTGAATTTCTGGACTGTGAAAGGGATAAAGTAAACGACATTGTA  
 GACCAGTTATTACCATTGGAAAACATGTTAAAGGGTACCACTACATCATTGCAAATCTG  
 GGATTTACTGATGGAGACCTATTAATAAATCCAGTTTGGAGGTGCAAATGTCTCTGGATTT  
 CAGATAGTGGACTATGATGATTCGTTGGTATCTAAATTTATAGAAAGATGGTCAACACTG  
 GAAGAAAAGAATACCCTGGAGCTCACACAACAACAATTAAGTATACTTCTGCTCTGACC  
 TATGATGCCGTTCAAGTATGACTGAAGCCTTCCGCAACCTAAGGAAGCAAGAATTGAA  
 ATCTCCGAAGGGGGAATGCAGGAGACTGTCTGGCAAACCCAGCAGTGCCTGGGGACAA  
 GGTGTAGAAAATAGAAAGGGCCCTCAAACAGGTTTCAAGGTTCTCTCAGGAAATATA  
 AAGTTTGACCAGAATGGAAAAAGAAATAACTATACAATTAACATCATGGAGCTCAAACT  
 AATGGGCCCGGAAGATTGGCTACTGGAGTGAAGTGGACAAAATGGTTGTTACCTTACT  
 GAGCTCCCTTCTGAAAATGACACCTCTGGGCTTGAGAATAAGACTGTTGTTGTCACCACA  
 ATTTTGGAAATCTCCGTATGTTATGATGAAGAAAATCATGAAATGCTTGAAGGCAATGAG  
 CGCTATGAGGGCTACTGTGTTGACCTGGCTGCAGAAATCGCCAACATTGTGGTTCAAG  
 TACAAGTTGACAATTGTTGGTATGGCAAGTATGGGGCCAGGGATGCAGACACGAAAATT  
 TGAATGGGATGGTTGGAGAACTGTATATGGGAAAGCTGATATTGCAATTGCTCCATTA  
 ACTATTACCCTTGTGAGAGAAGAGGTGATTGACTTCTCAAAGCCCTTCATGAGCCTCGGG  
 ATATCTATCATGATCAAGAAGCCTCAGAAGTCAAACCAGGAGTGTTCCTTTCTTGAT  
 CCTTTAGCCTATGAGATCTGGATGTGCATTGTTTTTGCCTACATTGGGGTCAGTGAGTT  
 TTATTCCTGGTCAGCAGATTTAGCCCTACGAGTGGCACACTGAGGAGTTTGAAGATGGA  
 AGAGAAACACAAAGTAGTGAATCAACTAATGAATTTGGGATTTTTAATAGTCTCTGGTTT  
 TCCTTGGGTGCCTTTATGCGGCAAGGATGCGATATTTGCGCAAGATCCCTCTCTGGGCGC  
 ATTGTTGGAGGTGTGGTGGTTCTTTACCCTGATCATAATCTCCTCCTACACGGCTAAC  
 TTAGCTGCCTTCTGACTGTAGAGAGGATGGTGTCTCCCATCGAAAGTGCTGAGGATCTT  
 TCTAAGCAAACAGAAATTGCTTATGGAACATTAGACTCTGGCTCCACTAAAGAGTTTTTC  
 AGGAGATCTAAAATTGCAGTGTTTGATAAAAATGTGGACCTACATGCGGAGTGCAGGAGCC  
 TCTGTGTTGTGAGGACTACGGCCGAAGGGTGGCTAGAGTGCAGGAGTCCAAAGGGAAA  
 TATGCCTACTTGTGGAGTCCACGATGAACGAGTACATTGAGCAAAGGAAGCCTTGGCAG  
 ACCATGAAAGTTGGTGGAAACCTGGATTCCAAAGGCTATGGCATCGCAACACCTAAAGGA  
 TCCTCATTAAAGAAATGCGGTTAACCTCGCAGTACTAAAAGTGAATGAACAAGGCCTGTTG  
 GACAAAATTGAAAAACAAATGGTGTACGACAAAGGAGAGTGCAGGAGCGGGGGAGGTGAT  
 TCCAAGGAAAAGACCAAGTGCCTCAGTCTGAGCAACGTTGCTGGAGTATTCTACATCCTT  
 GTCGGGGCCCTTGGTTTGGCAATGCTGGTGGCTTTGATTGAGTTCTGTTACAAGTCAAGG  
 GCCGAGGCGAAACGAATGAAGGTGGCAAAGAAATGCACAGAATATTAACCTTCTCTCTCG  
 CAGAATTCACAGAATTTGCAACTTATAAGGAAGGTTACAACGTATATGGCATCGAAAGT  
 GTTAAAAATTTAG

**Restriction Sites:** Please inquire  
**ACCN:** NM\_001083619  
**Insert Size:** 3500 bp

<b>OTI Disclaimer:</b>	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	The ORF of this clone has been fully sequenced and found to be a perfect match to NM_001083619.1.
<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>NM_001083619.1, NP_001077088.1</u>
<b>RefSeq Size:</b>	5755 bp
<b>RefSeq ORF:</b>	2652 bp
<b>Locus ID:</b>	2891
<b>UniProt ID:</b>	<u>P42262</u>
<b>Cytogenetics:</b>	4q32.1
<b>Protein Families:</b>	Druggable Genome, Ion Channels: Glutamate Receptors, Transmembrane
<b>Protein Pathways:</b>	Amyotrophic lateral sclerosis (ALS), Long-term depression, Long-term potentiation, Neuroactive ligand-receptor interaction

**Gene Summary:**

Glutamate receptors are the predominant excitatory neurotransmitter receptors in the mammalian brain and are activated in a variety of normal neurophysiologic processes. This gene product belongs to a family of glutamate receptors that are sensitive to alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA), and function as ligand-activated cation channels. These channels are assembled from 4 related subunits, GRIA1-4. The subunit encoded by this gene (GRIA2) is subject to RNA editing (CAG->CGG; Q->R) within the second transmembrane domain, which is thought to render the channel impermeable to Ca(2+). Human and animal studies suggest that pre-mRNA editing is essential for brain function, and defective GRIA2 RNA editing at the Q/R site may be relevant to amyotrophic lateral sclerosis (ALS) etiology. Alternative splicing, resulting in transcript variants encoding different isoforms, (including the flip and flop isoforms that vary in their signal transduction properties), has been noted for this gene. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (2) uses an alternate coding exon compared to transcript variant 1, and encodes an isoform (2, also known as flop isoform) that is the same length, but with a few amino acid differences from isoform 1. RNA editing (CAG->CGG) changes aa Gln607Arg. Sequence Note: This RefSeq record was created from transcript and genomic sequence data because no single transcript matching the reference genomic sequence was available for the full length of the gene. The extent of this transcript is supported by transcript alignments.