

## Product datasheet for **SC326381**

### NMDAR2A (GRIN2A) (NM\_001134407) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	NMDAR2A (GRIN2A) (NM_001134407) Human Untagged Clone
Tag:	Tag Free
Symbol:	NMDAR2A
Synonyms:	EPND; FESD; GluN2A; LKS; NMDAR2A; NR2A
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene sequence for NM\_001134407 edited  
 ATGGGCAGAGTGGGCTATTGGACCCTGCTGGTGTGCTGCCGGCCCTTCTGGTCTGGCGCGGT  
 CCGGCGCCGAGCGCGCGCGGAGAGGGTCCCCCGCGCTAAATATTGCGGTGATGCTG  
 GGTACAGCCACGACGTACAGAGCGGAACTTGAACACTGTGGGGCCCGAGCAGGCG  
 GCGGGGCTGCCCTGGACGTGAACGTGGTAGCTCTGCTGATGAACCGCACCGACCCCAAG  
 AGCCTCATCACGCACGTGTGCGACCTCATGTCCGGGACGCATCCACGGCCTCGTGTT  
 GGGGACGACACGGACCAGGAGGCCGTAGCCAGATGCTGGATTTATCTCCTCCACACC  
 TTCGTCCTCATCTGGGCATTATGGGGCGCATCTATGATCATGGCTGACAAGGATCCG  
 ACGTCTACCTTCTCCAGTTTGGAGCGTCCATCCAGCAGCAAGCCACGGTCATGCTGAAG  
 ATCATGCAGGATTATGACTGGCATGTCTTCTCCCTGGTGACCACTATCTCCCTGGCTAC  
 AGGGAATTCATCAGCTTCTGCAAGACCACAGTGGACAACAGCTTTGTGGGCTGGGACATG  
 CAGAATGTGATCACACTGGACACTTCCTTTGAGGATGCAAAGACACAAGTCCAGCTGAAG  
 AAGATCCACTCTTCTGTCTCTTCTACTGTTCCAAAGACGAGGCTGTTCTCATTCTG  
 AGTGAGGCCCGCTCCCTTGGCCTCACCGGGTATGATTTCTTCTGGATTGTCCCCAGCTTG  
 GTCTCTGGGAACACGGAGCTCATCCAAAAGAGTTTCCATCGGGACTCATTTCTGTCTCC  
 TACGATGACTGGGACTACAGCCTGGAGGCGAGAGTGAGGGACGGCATTGGCATCCTAACC  
 ACCGCTGCATCTTCTATGCTGGAGAAGTTCTCCTACATCCCCGAGGCCAAGGCCAGCTGC  
 TACGGGCAGATGGAGAGGCCAGAGTCCCGATGCACACCTTGACCCATTTATGGTCAAT  
 GTTACATGGGATGGCAAAGACTTATCCTTCACTGAGGAAGGCTACCAGGTGCACCCGAGG  
 CTGGTGGTGATTGTGCTGAACAAAGACCCGGAATGGGAAAAGGTGGCAAGTGGGAGAAC  
 CATACTGAGCCTGAGGCACGCGGTGTGGCCAGGTACAAGTCTTCTCCGACTGTGAG  
 CCGGATGACAACCATCTCAGCATCGTACCCTGGAGGAGGCCCATTCGTCATCGTGAA  
 GACATAGACCCCTGACCGAGACGTGTGTGAGGAACACCGTGCCATGTCGGAAGTTCTGC  
 AAAATCAACAATTCAACCAATGAGGGGATGAATGTGAAGAAATGCTGCAAGGGTTCTGC  
 ATTGATATTCTGAAGAAGCTTTCCAGAAGTGTGAAGTTTACTTACGACCTCTATCTGGT  
 ACCAATGGGAAGCATGGCAAGAAAGTTAACAATGTGTGGAATGGAATGATCGGTGAAGT  
 GTCTATCAACGGGCAGTCATGGCAGTTGGCTCGCTCACCATCAATGAGGAACGTTCTGAA



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GTGGTGGACTTCTCTGTGCCCTTTGTGGAACGGGAATCAGTGTGTCATGGTTTCAAGAAGT  
 AATGGCACCGTCTCACCTTCTGCTTTTCTAGAACCATTACGCGCCTCTGTCTGGGTGATG  
 ATGTTTGTGATGCTGCTCATTGTTTCTGCCATAGCTGTTTTGTCTTTGAATACTTCAGC  
 CCTGTTGGATACAACAGAACTTAGCCAAAGGGAAAGCACCCCATGGGCCTTCTTTTACA  
 ATTGAAAAGCTATATGGCTTCTTTGGGGCCTGGTGTCAATAACTCCGTGCCTGTCCAG  
 AATCCTAAAGGGACCACCAGCAAGATCATGGTATCTGTATGGGCCTTCTCGCTGTGATA  
 TTCTGGCTAGCTACACAGCCAATCTGGCTGCCTTCATGATCCAAGAGGAATTTGTGGAC  
 CAAGTGACCGGCCTCAGTGACAAAAAGTTTCAGAGACCTCATGACTATTTCCACCTTTT  
 CGATTTGGGACAGTGCCTAATGGAAGCACGGAGAGAAACATTTCGGAATAACTATCCCTAC  
 ATGCATCAGTACATGACCAAATTAATCAGAAAGGAGTAGAGGACGCCTTGGTCAGCCTG  
 AAAACGGGAAGCTGGACGCTTTCATCTACGATGCCGAGTCTTGAATTAACAAGGCTGGG  
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 TATGGAATTGCCCTTCAGAAAGGCTCTCCTTGAAGAGGCAGATCGACCTGGCCTTGCTT  
 CAGTTTGTGGGTGATGGTGAAGTGGAGGAGCTGGAGACCCTGTGGCTCACTGGGATCTGC  
 CACAACGAGAAGAACGAGGTGATGAGCAGCCAGCTGGACATTGACAACATGGCGGGCGTA  
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 TTCTCCATCAGCAGGGGCATCTACAGCTGCATTATGGAGTGCACATTGAAGAAAAGAAG  
 AAGTCTCCAGACTTCAATCTGACGGGATCCCAGAGCAACATGTTAAAACCTCCCGGTCA  
 GCCAAAAACATTTCCAGCATGTCCAACATGAACCTCAAGAATGGACTCACCCAAAAGA  
 GCTGCTGACTTCAATCCAAAGAGGTTCCCTCATCATGGACATGGTTTCAGATAAGGGGAAT  
 TTGATGTACTCAGACAACAGGTCCTTTTCAGGGAAAGAGAGCATTTTTGGAGACAACATG  
 ACGAATCCAAACATTTGTGGCCAACCGCAGAAAGGATAACCTCAATAACTATGTATTTC  
 CAGGGACAACATCCTTACTCTCAATGAGTCCAACCCTAACACGGTGGAGGTGGCCGTG  
 AGCACAGAATCCAAAGCGAACTCTAGACCCCGCAGCTGTGGAAGAAATCCGTGGATTCC  
 ATACGCCAGGATCACTATCCCAGAATCCAGTCTCCAGAGGGATGAGGCAACAGCAGAG  
 AATAGGACCCACTCCCTAAAGAGCCCTAGGTATCTTCCAGAAGAGATGGCCCACTCTGAC  
 ATTTCCAGAAACGTCAAATCGGGCCACGTGCCACAGGAACTGACAACAGTAAGAACCAC  
 AAAACCAAGGACAACCTTTAAAAGGTCAGTGGCCTCCAAATACCCCAAGGACTGTAGTGAG  
 GTCGAGCGCACCTACCTGAAAACCAAATCAAGCTCCCCTAGAGACAAGATCTACACTATA  
 GATGGTGAGAAGGAGCCTGGTTTCCACTTAGATCCACCCAGTTTGTGAAAATGTGACC  
 CTGCCCGAGAACGTGGACTTCCCGGACCCTACCAGGATCCCAGTGAAAACCTTCCGCAAG  
 GGGGACTCCACGCTGCCAATGAACCGGAACCCCTTGCATAATGAAGAGGGGCTTTCCAAC  
 AACGACCAGTATAAACTCTACTCCAAGCACTTACCTTGAAGACAAGGGTTCCCCGCAC  
 AGTGAGACCAGCGAGCGATACCGGCAGAACTCCACGCACTGCAGAAGCTGCCTTTCCAAC  
 ATGCCACCTATTCAGGCCACTTACCATGAGGTCCCCCTCAAGTGGATGCCTGCCTG  
 CGGATGGGGAACCTCTATGACATCGATGAAGACCAGATGCTTTCAGGAGACAGGTAACCCA  
 GCCACCGGGGAGCAGGCTACCAGCAGGACTGGGCACAGAAACATGCCCTTCAATTACAA  
 AAGAACAAGCTAAGGATTAGCCGTCAGCATTCTACGATAACATTGTGACAAAACCTAGG  
 GAGCTAGACCTTAGCAGGCCCTCCCGGAGCATAAGCCTCAAGGACAGGGAACGGCTTCTG  
 GAGGGAAATTTTTACGGCAGCCTGTTTAGTGTCCCTCAAGCAAACTCTCGGGGAAAAAA  
 AGCTCCCTTTTCCCAAGGCTGGAGGACAGCAAGAGGAGCAAGTCTCTCTTGCCAGAC  
 CACACCTCCGATAAACCTTTCTCCACTCCACAGGGATGACCAACGCTTGGTTATTGGG  
 AGATGCCCTCGGACCCTTACAAACACTCGTTGCCATCCAGGCGGTGAATGACAGCTAT  
 CTTGGTGTGATTTTCGGAGCATGTTATGCCTTATGCTGCAATAAGAATAATGTACTCT  
 ACCCCAGGGTTTTAAATTCCTGCAGCAATAGACGCGTGTACAAGAAAATGCCTAGTATC  
 GAATCTGATGTTTAA

**Restriction Sites:**

Please inquire

**ACCN:**

NM\_001134407

<b>Insert Size:</b>	4400 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>	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>	<a href="#">NM_001134407.1</a> , <a href="#">NP_001127879.1</a>
<b>RefSeq Size:</b>	14706 bp
<b>RefSeq ORF:</b>	4395 bp
<b>Locus ID:</b>	2903
<b>UniProt ID:</b>	<a href="#">Q12879</a>
<b>Cytogenetics:</b>	16p13.2
<b>Protein Families:</b>	Druggable Genome, Ion Channels: Glutamate Receptors, Ion Channels: Sodium, Transmembrane
<b>Protein Pathways:</b>	Alzheimer's disease, Amyotrophic lateral sclerosis (ALS), Calcium signaling pathway, Long-term potentiation, Neuroactive ligand-receptor interaction, Systemic lupus erythematosus

**Gene Summary:**

This gene encodes a member of the glutamate-gated ion channel protein family. The encoded protein is an N-methyl-D-aspartate (NMDA) receptor subunit. NMDA receptors are both ligand-gated and voltage-dependent, and are involved in long-term potentiation, an activity-dependent increase in the efficiency of synaptic transmission thought to underlie certain kinds of memory and learning. These receptors are permeable to calcium ions, and activation results in a calcium influx into post-synaptic cells, which results in the activation of several signaling cascades. Disruption of this gene is associated with focal epilepsy and speech disorder with or without cognitive disability. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2014]

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