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Product datasheet for RG226377

NMDAR2A (GRIN2A) (NM_001134408) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	NMDAR2A (GRIN2A) (NM_001134408) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GRIN2A
Synonyms:	EPND; FESD; GluN2A; LKS; NMDAR2A; NR2A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>RG226377 representing NM_001134408
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGCAGAGTGGGCTATTGGACCCTGCTGGTGCTGCCGGCCCTTCTGGTCTGGCGCGGTCCGGCGCCGA
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GCTCTGCTGATGAACCGCACCGACCCCAAGAGCCTCATCACGCACGTGTGCGACCTCATGTCCGGGGCAC
GCATCCACGGCCTCGTGTTTGGGGACGACACGGACCAGGAGGCCGTAGCCCAGATGCTGGATTTTATCTC
CTCCCACACCTTCGTCCCCATCTTGGGCATTCATGGGGGCGCATCTATGATCATGGCTGACAAGGATCCG
ACGTCTACCTTCTTCCAGTTTGGAGCGTCCATCCAGCAGCAAGCCACGGTCATGCTGAAGATCATGCAGG
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AATGTGTGGAATGGAATGATCGGTGAAGTGGTCTATCAACGGGCAGTCATGGCAGTTGGCTCGCTCACCA
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TGCCTGCCTGCGGATGGGGAACCTCTATGACATCGATGAAGACCAGATGCTTCAGGAGACAGGGATGACC
AACGCTTGGTTATTGGGAGATGCCCCTCGGACCCTTACAAACACTCGTTGCCATCCCAGGCGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG226377 representing NM_001134408
Red=Cloning site Green=Tags(s)

MGRVGYWTLLVLPALLVWRGPAPSAAAEKGPPALNIAVMLGHSHDVTERELRTLWGPEQAAGLPLDVNVV
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EDAKTQVQLKKIHSSVILLYCSKDEAVLILSEARSLGLTGYDFFWIVPSLVSGNTELIPKEFPSGLISVS
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FTLKDKGSPHSETSERYRQNSTHCRSCLSNMPTYSGHFTMRSPFKCDACLRMGNLYDIDEDQMLQETGMT
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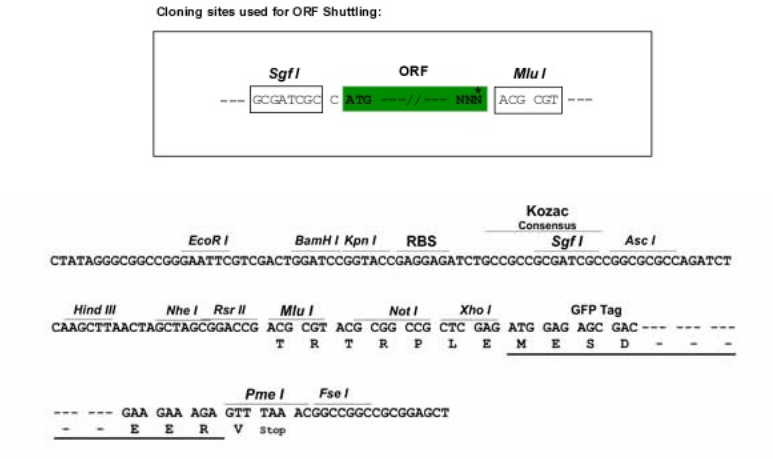
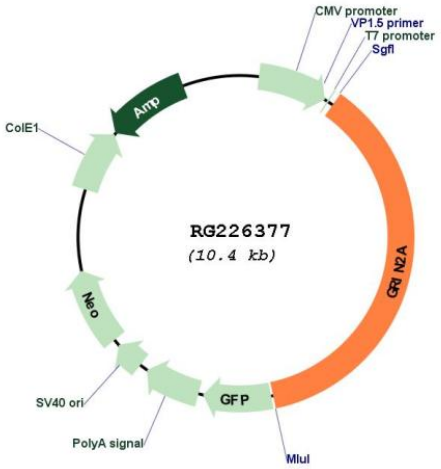
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_001134408

ORF Size: 3843 bp

OTI Disclaimer: 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 custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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:
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_001134408.2

RefSeq Size:	4745 bp
RefSeq ORF:	3846 bp
Locus ID:	2903
UniProt ID:	Q12879
Cytogenetics:	16p13.2
Protein Families:	Druggable Genome, Ion Channels: Glutamate Receptors, Ion Channels: Sodium, Transmembrane
Protein Pathways:	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]