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Product datasheet for MG227135

Grin2a (NM_008170) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Grin2a (NM_008170) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Grin2a
Synonyms:	GluN2A; NMDAR2A; NR2A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

ORF Nucleotide Sequence:

>MG227135 representing NM_008170
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGGCAGACTGGGCTACTGGACCTTGCTGGTATTGCCGGCCCTTCTGGTCTGGCACGGTCCGGCGCAGA
ACGCGGCGGCGGAGAAGGGTACTCCAGCGCTGAACATTGCGGTGCTGCTGGGTCACAGCCACGACGTGAC
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GCGTTATTGATGAACCGCACTGACCCTAAGAGCCTCATCACGCATGTGTGCGACCTCATGTCCGGGGCGC
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CTGCAGCAATAGACGTGTGTACAAGAAAATGCCTAGTATTGAATCTGATGTC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG227135 representing NM_008170
Red=Cloning site Green=Tags(s)

MGRLGYWTLLVLPALLVWHGPAQNAAAEKGTPALNIAVLLGHSHDVTERELRNLWGPEQATGLPLDVNVV
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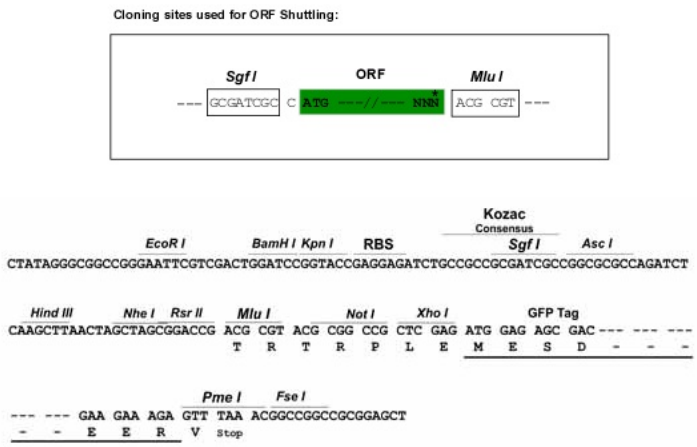
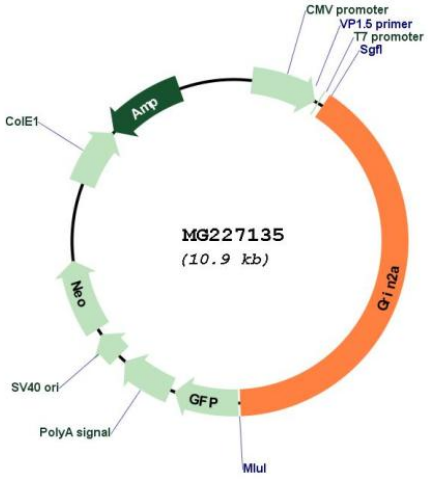
TRTRPLE – GFP Tag – V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_008170

ORF Size: 4392 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_008170.4
RefSeq Size:	4512 bp
RefSeq ORF:	4395 bp
Locus ID:	14811
UniProt ID:	P35436
Cytogenetics:	16 5.28 cM
Gene Summary:	Component of NMDA receptor complexes that function as heterotetrameric, ligand-gated ion channels with high calcium permeability and voltage-dependent sensitivity to magnesium (PubMed:1374164). Channel activation requires binding of the neurotransmitter glutamate to the epsilon subunit, glycine binding to the zeta subunit, plus membrane depolarization to eliminate channel inhibition by Mg(2+). Sensitivity to glutamate and channel kinetics depend on the subunit composition; channels containing GRIN1 and GRIN2A have higher sensitivity to glutamate and faster kinetics than channels formed by GRIN1 and GRIN2B (By similarity). Contributes to the slow phase of excitatory postsynaptic current, long-term synaptic potentiation, and learning (PubMed:7816096, PubMed:8987814).[UniProtKB/Swiss-Prot Function]