

## Product datasheet for **MG225704**

### Grin1 (NM\_008169) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Grin1 (NM_008169) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Grin1
Synonyms:	GluN1; GluRdelta1; GluRzeta1; M100174; NMD-R1; Nmdar; NMDAR1; NR1; Rgsc174
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG225704 representing NM\_008169  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCACCATGCACCTGCTGACATTGCGCCTGCTTTTCTCCTGCTCCTTCGCCCGCTGCTGCGACC  
 CCAAGATTGTCAACATCGGCGCGGTGCTGAGCAGCGCAAGCACGAGCAGATGTTCCGCGAGGCAGTAAA  
 CCAGGCCAATAAGCGACACGGCTCTTGGAGATACAGCTCAACGCCACTTCTGTACCCACAAGCCCAAC  
 GCCATACAGATGGCCCTGTCAAGTGTGAGGACCTCATCTCTAGCCAGGTCTACGCTATCCTAGTTAGTC  
 ACCCGCTACTCCCAACGACCCTTCACTCCCACCCTGTCTCCTACACAGCTGGCTTCTACAGAATCCC  
 CGTCTGGGGTACTACCCGAATGTCCATCTACTCTGACAAGAGCATCCACCTGAGCTTCTTCGCACC  
 GTACCACCCTACTCCCACAGTCCAGCGTCTGGTTTGAGATGATGCGCGTCTACAACCTGGAACCATATCA  
 TCCTGCTGGTCAAGGATGACACGAGGGCCGGCAGCGCAGAAGCGCCTGGAGACGTTGCTGGAGGAGCG  
 TGAGTCCAAGGCAGAGAAGGTGCTGCAGTTTGACCCAGGAACCAAGAATGTGACGGCTCTGCTGATGGAA  
 GCCCGGGACCTGGAAGCCCGGGTCAATCCTTTCTGCAAGCGAGGACGAGCTGCCACCGTATACCGCG  
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 TGCCCTGCGCTACGCTCCTGACGGCATCATCGACTTCAGCTAATCAACGGCAAGAACGAGTCGGCCAC  
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 TTCCAAGTATGCAGATGGAGTACTGGCCGTGTGGAATCAATGAGGATGGGACCGGAAGTTTGCCAAC  
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 TGGCTCCACTGACCATTAACAATGAGCGTGCAGTACATAGAGTTCTCCAAGCCCTTCAAGTACCAGGG  
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 GTCCTTTTGGCCGATTTAAGGTGAACAGCGAGGAGGAGGAGGATGCACTGACCTGTCTCTGCCAT  
 GTGGTTTTCTGGGGCGTCTGTCAACTCTGGCATTGGGGAAGGTGCCCCCGGAGTTTCTCTGCTCGT  
 ATCCTAGGCATGGTGTGGGCTGGTTTTGCCATGATCATCGTGGCTTCTACACTGCCAACCTGGCAGCCT  
 TCCTGGTGTGGATAGGCCTGAGGAGCGCATCACAGGCATCAATGACCCAGGCTCAGAAACCCCTCAGA  
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 AATGTGTCCTGTCCATACTCAAGTCCCATGAGAATGGCTTCAAGGAAAGCCTGGATAAGACATGGGTTT  
 GGTATCAAGAATGTGACTCCCGCAGCAATGCCCTGCCACCTCACTTTTGAACAATGGCAGGGTCTT  
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 ATAGAAAGAGTGGTAGAGCAGAGCCGACCCTAAAAGAAAGCCACATTTAGGGCTATCACCTCCACCT  
 GGCCTCCAGCTTCAAGAGACGTAGTCTCCAAGACACGAGCACCGGGGGTGGACGCGGCTTTGCAA  
 AACCAAAAAGACACAGTGTGCCGCGACGCTATTGAGAGGGAGGAGGGCCAGCTGCAGCTGTGTTCCC  
 GTCATAGGGAGAGC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG225704 representing NM\_008169  
 Red=Cloning site Green=Tags(s)

MSTMHLLTFALLFSCSFARAACDPKIVNIGAVLSTRKHEQMFREAVNQANKRHGSKWIQLNATSVTHKPN  
 AIQMALSVCEDLISSQVYAILVSHPTPNDFHTPTPVSYTAGFYRIPVLGLTTRMSIYSDKSIHLSFLRT  
 VPPYSHQSSVWFEMMRVYNWNHIIILLVSDDEHGRAAQKRLLEERESKAQKVLQFDPGTKNVTALLME  
 ARDLEARVILSASEDDAATVYRAAAMLNMTGSGYVWL VGEREISGNALRYAPDGIIGLQLINGKNESA  
 ISDAVGVAQAVHELLEKENITDPPRGCVGNTNIWKTGPLFKRVLMSKYADGVTGRVEFNEDGDRKFAN  
 YSIMNLQNRKLVQVGIYNGTHVIPNDRKIWPGETEKPRGYQMSRTRKIVTIHQEPFVYVKPTMSDGT  
 KEEFTVNGDPVKKVICTGPNDTSPGSPRHTVPQCCYGFCDLLIKLARTMNFYEVHLVADGKFGTQERV  
 NNSNKKEWNGMMGELLSGQADMI VAPLTINNERAQYIEFSKPFKYQGLTILVKKEIPRSTLDSFMQPFQ  
 TLWLLVGLSVHVAVMLYLLDRFSPFGRFKVNSEEEEDALTLSSAMWFSWVLLNSGIGEGAPRSFSAR  
 ILGMVWAGFAMIIVASYANLAFLVDRPEERITGINDPRLRNPDKFIYATVKQSSVDIYFRQVELS  
 TMYRHMEKHNYESAEEAIQAVRDNKLHAFIWD SAVLEFEASQKCDLVTTGELFFRSFGFGIMRKDSPWKQ  
 NVSLSILKSHENGFMEDLKTWVRYQECDSRSNAPATLTFENMAGVFMLVAGGIVAGIFLIFIEIAYKRH  
 KDARRKQMLAF AAVNVWRKNLQDRKSGRAEPDPKKKATFRAITSTLASSFKRRRSSKDTSTGGGRGALQ  
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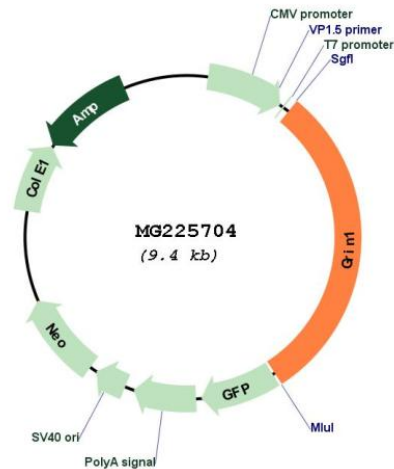
TRTRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**Plasmid Map:**


**ACCN:** NM\_008169

**ORF Size:** 2814 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](mailto: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\\_008169.3](#)

RefSeq Size: 3215 bp

RefSeq ORF: 2817 bp

Locus ID: 14810

UniProt ID: [P35438](#)

Cytogenetics: 2 17.14 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. 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+) (PubMed:1532151, PubMed:8060614, PubMed:12008020). Sensitivity to glutamate and channel kinetics depend on the subunit composition (PubMed:12008020). [UniProtKB/Swiss-Prot Function]