

Product datasheet for **RG223048**

GRIK2 (NM_175768) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GRIK2 (NM_175768) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	GRIK2
Synonyms:	EAA4; GLR6; GluK2; GLUK6; GLUR6; MRT6
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG223048 representing NM_175768
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGAAGATTATTTTCCCATTCTAAGTAATCCAGTCTTCAGGCGCACCGTTAAACTCCTGCTCTGTTTAC
 TGTGGATTGGATATTCTCAAGGAACACACATGTATTAAGATTTGGTGGTATTTTGAATATGTGGAATC
 TGGCCCAATGGGAGCTGAGGAACTTGCAATTCAGATTTGCTGTGAACACAATTAACAGAAACAGAATTG
 CTACCCAATACTACCTTACCTATGATACCCAGAAGATAAACCTTTATGATAGTTTTGAAGCATCCAAGA
 AAGCCTGTGATCAGCTGTCTCTGGGGTGGCTGCCATCTTCGGGCCTTCACACAGCTCATCAGCAAACGC
 AGTGCAGTCCATCTGCAATGCTCTGGGAGTTCACACATACAGACCCGCTGGAAGCACCAGGTGTCAGAC
 AACAAAGATTCTTCTATGTCAGTCTCTACCCAGACTTCTTCACTCAGCCGTGCCATTTAGACCTGG
 TGCAGTTTTTCAAGTGGAAAACCGTCACGGTTGTGTATGATGACAGCACTGGTCTCATTCTGTTTGAAGA
 GCTCATCAAAGCTCCATCAAGGTATAATCTTCGACTCAAATTCGTCAGTTACCTGCTGATACAAAGGAT
 GCAAAACCTTACTAAAAGAAATGAAAAGAGGCAAGGAGTTTCATGTAATCTTTGATTGTAGCCATGAAA
 TGGCAGCAGGCATTTTAAAACAGGCATTAGCTATGGGAATGATGACAGAATACTATCATTATATCTTTAC
 CACTCTGGACCTCTTTGCTCTTGATGTTGAGCCCTACCGATACAGTGGTGTAAACATGACAGGGTTCAGA
 ATATTAATACAGAAAATACCAAGTCTCCTCCATCATTGAAAAGTGGTCGATGGAACGATTGCAGGCAC
 CTCCGAAACCCGATTCAAGTTTGGCTGGATTTATGACGACTGATGCTGCTCTAATGTATGATGCTGT
 GCATGTGGTGTCTGTGGCCGTTCAACAGTTTCCCAGATGACAGTCAAGTTCCTTGCAGTGAATCGACAT
 AAACCTGGCGCTTCGGGACCCGCTTTATGAGTCTAATTAAGAGGCACATTGGGAAGCCCTCACAGGCA
 GAATAACTTTCAACAAAACCAATGGCTTGAGAACAGATTTTGGATTTGGATGTGATCAGTCAAGGAAGA
 AGGTCTAGAAAAGATTGGAACGTGGGATCCAGCCAGTGGCCTGAATATGACAGAAAAGTCAAAGGGAAAG
 CCAGCGAACATCACAGATTCTTATCCAATCGTCTTTGATTGTTACCACCATTTTGAAGAGCCTTATG
 TCCTTTTTAAGAAGTCTGACAAACCTCTCTATGGTAATGATCGATTTGAAGGCTATTGCATTGATCTCT
 CAGAGAGTTATCTACAATCCTTGGCTTTACATAGAAATTAGACTTGTGGAAGATGGGAAATATGGAGCC
 CAGGATGATGCCAATGGACAATGGAATGGAATGGTTCGTGAACATAAAGCTGACCTTGACG
 TTGCTCCACTGGCTATTACCTATGTTGAGAGAAAGTTCAGACTTTTCCAAGCCCTTTATGACACTTGG
 AATAAGTATTTGTACCGCAAGCCCAATGGTACAACCCAGGCGTCTTCTCCTTCTGAATCCTCTCTCC
 CCTGATATCTGGATGTATATTCTGCTGGCTTACTTGGGTGTCAGTTGTGTGCTCTTTGTCATAGCCAGGT
 TTAGTCTTATGAGTGGTATAATCCACACCCTTGAACCCCTGACTCAGACGTTGGTGGAAAACAATTTTAC
 CTTGCTAAATAGTTTCTGGTTTGGAGTTGGAGCTCTCATGCAGCAAGGTTCTGAGCTCATGCCAAAGCA
 CTGTCCACCAGGATAGTGGGAGGCATTTGGTGGTTTTTACACCTTATCATATTTCTTCTGATACTGCTA
 ACTTAGCCGCCTTTCTGACAGTGGAACGCATGGAATCCCCTATTGACTCTGCTGATGATTAGCTAAACA
 AACCAAGATAGAATATGGAGCAGTAGAGGATGGTGAACCATGACTTTTTTCAAGAAATCAAAAATCTCC
 ACGTATGACAAAATGTGGGCCTTTATGAGTAGCAGAAGGCAGTCAAGTGGTCAAAGTAAATGAAGAAG
 GAATCCAGCGAGTCTCACCTCTGATTATGCTTTCCTAATGGAGTCAACAACCATCGAGTTTGTACCCA
 GCGGAACCTGTAACTGACACAGATTGGCGCCTTATAGACTCTAAAGGTTATGGCGTTGGCACTCCCATG
 GGTTCTCCATATCGAGACAAAATTACCATAGCAATTTCTCAGCTGCAAGAGGAAGGCAAACTGCATATGA
 TGAAGGAGAAATGGTGGAGGGCAATGGTTGCCAGAAGAGGAGAGCAAAGAGGCCAGTGCCTGGGGT
 TCAGAATATTGGTGGCATCTTATTGTTCTGGCAGCCGGCTTGGTCTTTAGTTTTGTGGCAGTGGGA
 GAATTTTTATACAAATCCAAAAAACGCTCAATTGAAAAGGAATCTTCTATTTGGTTAGTGCCACCAT
 ACCATCCAGACTGTT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG223048 representing NM_175768
 Red=Cloning site Green=Tags(s)

MKIIIFPILSNPVFRRTVKLLLCLLWIGYSQGTTHVLRFGGIFEFYVESGPMGAEELAFRFVNTINRNRTL
 LPNTTLTYDTQKINLYDSFEASKACDQLSLGVAATFGPSSHSSANAVQSI CNALGVPHIQTRWKHQVSD
 NKDSFYVSLYPDFSSLSRAILDLVQFFKWKTVTVVYDDSTGLIRLQELIKAPSRYNLRKIRQLPADTKD
 AKPLLKEMKRGKEFHVIFDCSHEMAAGILKQALAMGMMTEYYHYIFTTLDLFDLVEPYRYSGVNMTGFR
 ILNTEQVSSIIIEKWSMERLQAPPKPDSDLDFMTTDAALMYDAHVHVSVAVQFPQMTVSSLQCNRH
 KPWRFGTRFMSLIKEAHWEGLTGRITFNKTNGLRDLDLVDVLSLKEEGLEKIGTWDPASGLNMTE SQK GK
 PANITDSLNRSLIVTTILEEPLYVLFKKS DKPLYGNDRFEGYCIDLLRELSTILGFTYEIRLVEDGKYGA
 QDDANGQWNGMVRELIDHKADLAVAPLAITYVREKVIDFSKPFMTLGISILYRKPNGTNPGVFSFLNPLS
 PDIWMIYLLAYLVGSCVLFVIARFSPYEWYNPHPCNPDSVVENNFTLLNSFWFGVGMALMQGSELMPKA
 LSTRIVGGIWWFFTLIIISSYANLAAFLTVERMESPIDSAADLAKQTKIEYGAVEDGATMTFFKSKIS
 TYDKMWFMSRRQSVLVKSNEEIQRVLTSDYAFLMESTTIEFVTQRNCNLQIGGLIDSKGYGVGTPM
 GSPYRDKITIAILQLQEEGKLHMMKEKWWRGNGCPEEESKEASALGVQNI GGIFIVLAAGLVLSVFVAVG
 EFLYKSKNAQLEKESSIWLVPPYHPDTV

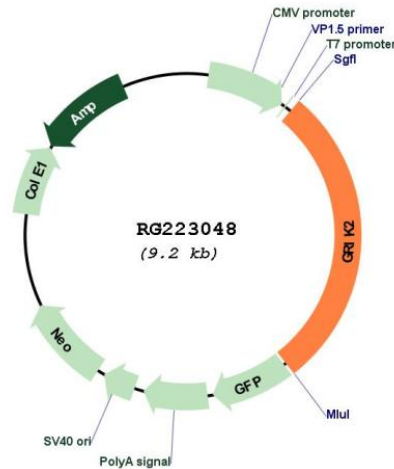
TRTRPLE - GFP Tag - V

Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:


ACCN: NM_175768

ORF Size: 2607 bp

OTI Disclaimer: 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_175768.3](#)

RefSeq Size: 3409 bp

RefSeq ORF: 2610 bp

Locus ID: 2898

UniProt ID: [Q13002](#)

Cytogenetics:	6q16.3
Protein Families:	Druggable Genome, Ion Channels: Glutamate Receptors, Transmembrane
Protein Pathways:	Neuroactive ligand-receptor interaction
Gene Summary:	<p>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 the kainate family of glutamate receptors, which are composed of four subunits and function as ligand-activated ion channels. The subunit encoded by this gene is subject to RNA editing at multiple sites within the first and second transmembrane domains, which is thought to alter the structure and function of the receptor complex. Alternatively spliced transcript variants encoding different isoforms have also been described for this gene. Mutations in this gene have been associated with autosomal recessive cognitive disability. [provided by RefSeq, Jul 2008]</p>