

## Product datasheet for **MG201745**

### Homer1 (BC064041) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Homer1 (BC064041) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Homer1  
**Synonyms:** homer-1; PSD-Zip45; SYN47; Ves-1; vesl-1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG201745 representing BC064041  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGGGGAGCAACCTATCTTCAGCACTCGAGCTCATGTCTTCCAGATTGACCCGAACACAAAGAAGAACT  
 GGGTACCACAGCAAGCATGCAGTTACTGTATCTTATTTTTATGACAGCACAAGAAATGTGTATAGGAT  
 AATCAGTTTAGATGGCTCAAAGGCAATAATAAATAGCACCATCACACCAACATGACATTTACTAAAACA  
 TCTCAAAGTTTGGCCAATGGGCTGATAGCCGGGCAAACACTGTTTATGGACTGGGATTCTCCTCTGAGC  
 ATCATCTTTCAAATTCGCAGAAAAGTTTCAGGAATTTAAGGAAGCTGCTCGGCTTGCAAAGGAGAAGTC  
 GCAGGAGAAGATGGAGCTGACCAGTACCCTTCACAGGAATCAGCAGGAGGAGATCTTCAGTCTCCTTTG  
 ACACCAGAAAAGTATCAATGGGACAGACGATGAGAGAACCCCGATGTGACACAGAACTCAGAGCCAAGGG  
 CTGAGCCAACCTAGAATGCATTGCCATTTCCACATAGGTACACATTCAATTCAGCAATCATGATTAAG

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG201745 representing BC064041  
 Red=Cloning site Green=Tags(s)

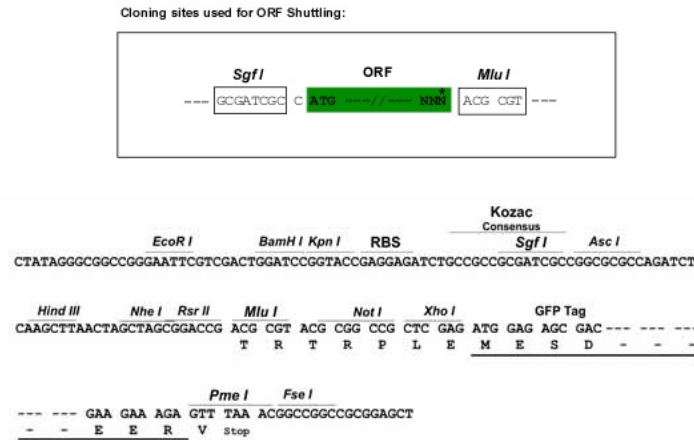
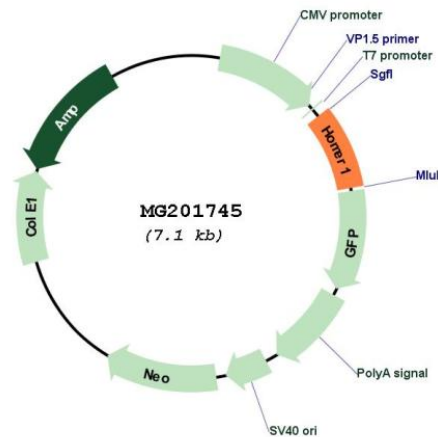
MGEQPIFSTRAHVFDIDPNTKKNWVPTSKHAVTVSYFYDSTRNVYRIISLDGSKAIINSTITPNMTFTK  
 SQKFGQWADSRANTVYGLGFSEHHLSKFAEKQEFKEARLAKEKSQEKMELTSTPSQESAGGDLQSP  
 TPESINGTDDERTPDVTQNSEPRAEPTQNALPFPHYTFNSAIMIK

**TRTRPLE** - GFP Tag - V

**Restriction Sites:** Sgfl-MluI



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**Cloning Scheme:**

**Plasmid Map:**


**ACCN:** BC064041

**ORF Size:** 560 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.

<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>	<u>BC064041</u> , <u>AAH64041</u>
<b>RefSeq Size:</b>	1922 bp
<b>RefSeq ORF:</b>	560 bp
<b>Locus ID:</b>	26556
<b>Cytogenetics:</b>	13 C3
<b>Gene Summary:</b>	<p>Postsynaptic density scaffolding protein. Binds and cross-links cytoplasmic regions of GRM1, GRM5, ITPR1, DNM3, RYR1, RYR2, SHANK1 and SHANK3. By physically linking GRM1 and GRM5 with ER-associated ITPR1 receptors, it aids the coupling of surface receptors to intracellular calcium release. May also couple GRM1 to PI3 kinase through its interaction with AGAP2. Isoform 1 regulates the trafficking and surface expression of GRM5. Differentially regulates the functions of the calcium activated channel ryanodine receptors RYR1 and RYR2. Isoform 1 decreases the activity of RYR2, and increases the activity of RYR1, whereas isoform 5 counteracts the effects by competing for binding sites. Isoform 3 regulates the trafficking and surface expression of GRM5. Isoform 5 acts as a natural dominant negative, in dynamic competition with constitutively expressed isoform 1, isoform 2 and isoform 3 to regulate synaptic metabotropic glutamate function. Isoform 5, may be involved in the structural changes that occur at synapses during long-lasting neuronal plasticity and development (By similarity). Forms a high-order complex with SHANK1, which in turn is necessary for the structural and functional integrity of dendritic spines (By similarity). Negatively regulates T cell activation by inhibiting the calcineurin-NFAT pathway. Acts by competing with calcineurin/PPP3CA for NFAT protein binding, hence preventing NFAT activation by PPP3CA (By similarity).[UniProtKB/Swiss-Prot Function]</p>