

Product datasheet for MR201745

Homer1 (NM_011982) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Homer1 (NM_011982) Mouse Tagged ORF Clone
Tag: Myc-DDK
Symbol: Homer1
Synonyms: homer-1; PSD-Zip45; SYN47; Ves-1; vesl-1
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >MR201745 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGGGGAGCAACCTATCTTCAGCACTCGAGCTCATGTCTTCCAGATTGACCCGAACACAAAGAAGAACT
 GGGTACCCACCAGCAAGCATGCAGTTACTGTATCTTATTTTTATGACAGCACAAGAAATGTGTATAGGAT
 AATCAGTTTAGATGGCTCAAAGGCAATAATAAATAGCACCATCACACCAACATGACATTTACTAAAACA
 TCTCAAAAGTTTGCCAATGGGCTGATAGCCGGGCAAACACTGTTTATGGACTGGGATTCTCCTCTGAGC
 ATCATCTTTCAAATTCGCAGAAAAGTTTCAGGAATTTAAGGAAGCTGCTCGGCTTGCAAAGGAGAAGTC
 GCAGGAGAAGATGGAGCTGACCAGTACCCCTTCACAGGAATCAGCAGGAGGAGATCTTCAGTCTCCTTTG
 ACACCAGAAAGTATCAATGGGACAGACGATGAGAGAACCCCGATGTGACACAGAACTCAGAGCCAAAGG
 CTGAGCCAACTCAGAATGCATTGCCATTTCCACATAGGTACACATTCAATTCAGCAATCATGATTAAG

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR201745 protein sequence
 Red=Cloning site Green=Tags(s)

MGEQPIFSTRAHVFQIDPNTKKNWVPTSKHAVTVSYFYDSTRNVYRIISLDGSKAIINSTITPNMTFTK
 SQKFGQWADSRANTVYGLGFSSEHLSKFAEKQEFKEAARLAKEKSQEKMELTSTPSQESAGGDLQSPL
 TPESINGTDDERTPDVTQNSEPRAEPTQNALPFPHRYTFNSAIMIK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI



Cloning Scheme:


ACCN: NM_011982

ORF Size: 561 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_011982.4](#)

RefSeq Size: 2136 bp

RefSeq ORF: 561 bp

Locus ID: 26556

UniProt ID: [Q9Z2Y3](#)

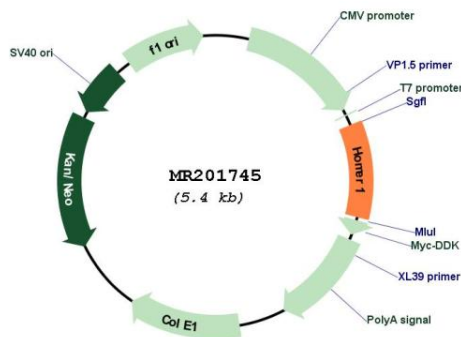
Cytogenetics: 13 C3

MW: 20.9 kDa

Gene Summary:

Postsynaptic density scaffolding protein. Binds and cross-links cytoplasmic regions of GRM1, GRM5, ITPR1, DNMT3, 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]

Product images:



Circular map for MR201745