

Product datasheet for MR225752

Gna12 (NM_010302) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Gna12 (NM_010302) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Gna12
Synonyms:	AI414047; AI504261; Galpha12
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR225752 representing NM_010302 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCCGGGGTGGTGCAGACCCTTAGCCGCTGCTTGTGCCGGCCGAGGCCGGAGCCCGCAGCGCAGGG
CGGGCGCGCGCGACGCGGAGCGGAGGCCCGACGGCGCAGCCCGCAGATCGACGCGCTGCTGGCCCG
CGAGCGCGCGCGGTGCGGCGGCTGGTCAAGATCCTGCTGCTGGGCGCCGGCAGAGCGGCAAGTCCACC
TTCTCAAGCAGATGCGCATCATCCACGGCCGGGAGTTCGACCAGAAGGCGCTGCTGGAGTTCGCGACA
CCATCTTCGACAACATCCTTAAGGGTTCGAGGGTTCCTTGTGGACGCTCGAGACAAGCTCGGCATTCCCTG
GCAGCACTCTGAGAACGAGAAGCACGGGATGTTTCTGATGGCCTTCGAGAACAGGCGAGGCTGCCTGTG
GAGCCTGCCACCTTCAGCTCTACGTGCCAGCCCTGAGTGCCCTCTGGAGAGACTCGGGGATCAGGGAAG
CCTTCAGCCGAGAACGAGTTCAGCTGGGTGAATCAGTGAAGTACTTCTGGATAAAGTGGACCGGAT
TGGCCAGCTGAATACTTCCCCAGTAAGCAAGACATCCTGCTGGCTAGAAAGGCCACCAAGGGAATCGTG
GAACATGACTTCGTTATAAAGAAAATCCCATTTAAGATGGTGGATGTGGGCGGCCAGAGGTCACAGCGCC
AGAAGTGGTTCAGTGCTTCGACGGCATCACATCTATCCTGTTTCAATGGTGTCTCGAGCGGATGACCA
GGTCTCATGGAGGACAGGCGCACCAACCGGCTGGTGGAGTCCATGAACATCTTCGAGACCATCGTCAAC
ACAAGCTCTTCAACGTCTCCATCATCCTCTTCAACAAGATGGACCTCCTGGTGGAGAAGGTGA
AGTCTGTGAGCATTAAAGAAGCACTTCCCAGATTTCAAGGGCGACCCGACCGGCTGGAGGACGTCACGG
CTACCTGGTGCAGTGCTTCGACAGGAAGCGCAGGAACCGCAGCAAGCCCTGTTCCACCCTTACCACC
GCCATAGACCCGAGAACATCCGCTTCGTGTTTCATGCTGTGAAGGACACGATCTCGAGGAGAACCTGA
AAGACATCATGCTGCAG

ACGGTACGGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



Protein Sequence: >MR225752 representing NM_010302
 Red=Cloning site Green=Tags(s)

MSGVVRTL SRCLLP AEAGARERRAGAARDAEREARRRSRDIDALLARERRAVRRLVKILLLGAGESGKST
 FLKQMRI IHGREFDQKALLEFRDTIFDNILKGSRLVDARDKLGIPWQHSENEKHGMFLMAFENKAGLPV
 EPATFQL YVPAL SALWRDSGIREAF SRRSEFQLGESVKYFLDNLDRIGQLNYFPSKQDILLARKATKGIV
 EHDFVIKKIPFKMVDVGGQRSQRQKWFQCFDGIT SILFMVSSSEYDQVLMEDRRTRNRLVESMNI FETIVN
 NKLFFNVS IILFLNKMDLLVEKVKSVSIKKHFPDFKGDPHRLEDVQRYLVQCFDRKRRNRSKPLFHFFTT
 AIDTENIRFVFHAVKDTILQENLKDIMLQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mm9036_h05.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_010302

ORF Size: 1137 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_010302.2](#), [NP_034432.1](#)

RefSeq Size: 1880 bp

RefSeq ORF: 1140 bp

Locus ID: 14673

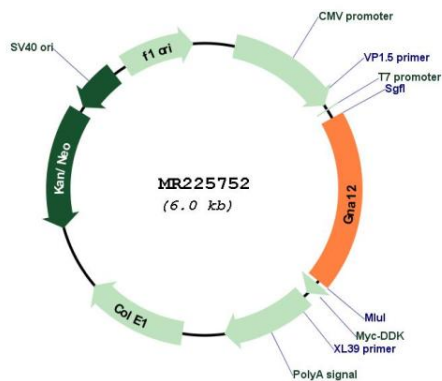
UniProt ID: [P27600](#)

Cytogenetics: 5 79.3 cM

MW: 44.5 kDa

Gene Summary: Guanine nucleotide-binding proteins (G proteins) are involved as modulators or transducers in various transmembrane signaling systems (PubMed:19151758, PubMed:21212405, PubMed:22609986). Activates effector molecule RhoA by binding and activating RhoGEFs (ARHGEF12/LARG) (By similarity). GNA12-dependent Rho signaling subsequently regulates transcription factor AP-1 (activating protein-1) (PubMed:19151758, PubMed:21212405). GNA12-dependent Rho signaling also regulates protein phosphatase 2A activation causing dephosphorylation of its target proteins (By similarity). Promotes tumor cell invasion and metastasis by activating RhoA/ROCK signaling pathway and up-regulating proinflammatory cytokine production (By similarity). Inhibits CDH1-mediated cell adhesion in process independent from Rho activation (By similarity). Together with NAPA promotes CDH5 localization to plasma membrane (By similarity). May play a role in the control of cell migration through the TOR signaling cascade (PubMed:22609986).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR225752