

Product datasheet for MR225202

Rest (NM_011263) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Rest (NM_011263) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Rest
Synonyms:	2610008J04Rik; AA407358; NRSF; REST4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR225202 representing NM_011263 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCACCCAGGTGATGGGGCAGTCTTCTGGAGGAGGCAGTCTCTTCAACAACAGTGCCAAATGGGCA
TGGCCTTAACCAACGACATGTACGACCTGCACGAGCTCTCGAAAGCTGAACTGGCAGCCCCTCAGCTCAT
CATGTTAGCCAACGTGGCCCTGACGGGGAGGCAAGCGGCAGCTGCTGCGATTACCTGGTCGGTGAAGAG
AGGCAGATGGCCGAATTGATGCCCGTGGGAGACAACCCTTCTCAGAAAAGTGAAGGAGAAGGCCCTGAAG
AGTCGGCTGACCTCAAAGGGCTGAAAAACATGGAAGTGGGAAAGTTGGAGCTAAGTGTGTAGAACCCCA
GCCCGTATTTGAAGCCTCAGCTGCCCGAGAAATATACAGCGCCAATAAAGATCCCGCTCCAGAAACACCC
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T C A G C G G T G G C G C G G A G A C T A A A G C A G C A G A G G T G A A A C A C A C A G A C G G A C A A A C A G G A A A C A A T C C A G
 A A A A G C C C T G T A A A G C C A A G A A A A A C A A A A G A A A G A A G G A T G C T G A G G C C C A T C C C T C C G A A G A G C C T G T
 G A A C G A G G G A C C A G T G A C A A A A A G A A A A A G A A G T C T G A G T G C A A A T C A A A A T C G G T A C C A A C G T G C C A
 A A G G G C G G C G C C G A G C G G A G A G A G G C C G G G G T C A A G A A G C A A A G C G C T T C C C T T A A G A A A G G C A C A A
 A G A A G A C G C C C C A A G A C A A G A C A A G T A A A A A A G G T G G C A A C T T G C T C C A A A G G G A T G G G G C A G A C
 A G A A C T T C T T C T G G G C A T T G G C T C A A G T G G G G T G T C T C C A G A C C C T G C C C T C A T T C A G G C A G A G G T C
 A C C G G G T C A G A T C T T C T C A G A C A G A G T T C C T T C A C C C A T G G A T A T T G C T A A G T C A G A C A G C C C C C A G A
 T G G A G G T T C C C T A A C A G G G C C A C C T C C G G T G G A G C C T G C T C A A A T G G A G C C A T C G C C T G C G A A A C C T C C
 C C A G G T A G A A G C A C C C A C T T A C C C C A G C C T C C C C A A A G G G G C C T G C C C C T C C C A C G G G C C T G C C C C T
 C C C A C G G G C C T G C C C C T C C C A C G G A G C C T G C C C C T C C C A C G G G C T T G C C G A G A T G G A A C C T T T C C C A
 C G G A G C C T T C C C A G A A G G A A C C A C C T C C C A G T A T G G A G C C T C C C T G C C C C G A G G A G C T G C C T C A G G C C G A
 G C C A C C T C T A T G G A G G A T T G T C A G A A G G A G C T G C C T T C C C G T G G A G C C C G C T C A G A T T G A G G T T G C T
 C A G A C G G C C C T A C G C A G G T T C A G G A G A G C C C C C T C T G T C T C G G A G C C A C C T C G G G T G A A G C C A A C C A
 A A A G A T C A T C T C C G G A A A G A C A G A G C A G A G A A G G A G C T G A G C C T G C T G A G T G A G A T G G C G C G C A G G A
 G C A G G T C C T C A T G G G G T T G G C T T G G T G C C T G T T A G A G A C A G C A A G C T T T G A A G G G A A C A A G A G C C C
 C A G G A C C C C C A G C C C C A C C G T C A C C A T C G C C A A A G G G A A A C T C G A G G G A A G A G A C C C A A G G A C C A A G
 A A A T G G T C T C T G A T G G G G A A G G A A C T A T A G T A T T C C C T C T C A A G A A A G G A G G A C C A G A G G A A G C T G G A G A
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 C C A G A G G T G G A G C A T C A C A C A G C A A G T G T C A G A C T G G C T C C T C T G G G C T T T G T G A C G T G G A C A C T G A G C
 A G A A G A C A G A T A C T G T C C C C A T G A A A G A C T C C G C A G C A G A G C C A G T G T C C C C T C T A C C C A A C A G T G G A
 C C G T G A C G C A G G T C A C C A G C T G A T G G C C T C C C C T C T A T C A C G T T G G C T G A A A A C G A G T C T C A G G A A
 A T T G A T G A A G A T G A A G G C A T C C A T A G C C A T G A T G G A A G T G A C C T G A G T G A C A A C A T G T C T G A G G G G A G T G
 A C G A C T A G G A C T G C A C G G G C T C G G C C G A C A C C A G A A G C T A C G T C A A A A A A T G G G A A G G C A G G G T T
 G C C T G G T A A A G T G A C T G A G G G A G A G T T T G T G T A T T T T C T G T A T C G T T C T T T T A G A A A G G A A A A A G A T
 T A T A G C A A A C A C T C A A T C G C C A C T T G G T G A A T G T G A C T T C C T A G A A G A A G C A G C T G A G G A G C A G G A G
 A G C A G G A G G A G C G G G A G G A G C A G G A G

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR225202 representing NM_011263
 Red=Cloning site Green=Tags(s)

MATQVMGQSSGGGSLFNNSANMGMALTNDMYDLHEL SKAELAAPQLIMLANVALTGEASGSCCDYLVGEE
 RQMAELMPVGDNHFSESEGLEESADLKLENMELGSELESAVEPQPVFEASAPEIYSANKDPAPETP
 VAEDKCRSSKAKPFRCKPCQYEAEESEQFVHHIRIHSAKKFFVEESAQAKAWESGSSPAEEGEFSGKP
 IRCDRCGYNTNRYDHMAHLKHHLRAGENERIYKCIICTYTTVSEYHWRKHLRNHFPRKVYTCCKNYFS
 DRKNYVQHVRTHTGERPYKCELCPYSSSQKTHLTRHMRTHSGEKPFKCDQCNYVASNQHEVTRHARQVH
 NGPKPLNCPHCDYKTADRSNFKKHVELHVNPRQFNCPVCDYAASKKCNLQYHFKSKHPTCPSKTMDVSKV
 K L K K T K K R E A D L L N N A V S N E K M E N E Q T K T K G D V S G K K N E K P V K A V G K D A S K E K K P G S S V S V V Q V T T R T R K
 S A V A A E T K A A E V K H T D G Q T G N N P E K P C K A K N K R K D A E A H P S E E P V N E G P V T K K K K S E C K S K I G T N V P
 K G G G R A E E R P G V K K Q S A S L K K G T K T P P K T K T S K K G G K L A P K G M G Q T E P S S G A L A Q V G V S P D P A L I Q A E V
 T G S G S S Q T E L P S P M D I A K S E P A Q M E V S L T G P P P V E P A Q M E P S P A K P P Q V E A P T Y P Q P P Q R G P A P P T G P A P
 P T G P A P P T E P A P P T G L A E M E P S P T E P S Q K E P P P S M E P P C P E E L P Q A E P P P M E D C Q K E L P S P V E P A Q I E V A
 Q T A P T Q V Q E E P P P V S E P P R V K P T K R S S L R K D R A E K E L S L L S E M A R Q E Q V L M G V G L V P V R D S K L L K G N K S A
 Q D P P A P P S P K G N S R E E T P K D Q E M V S D G E G T I V F L K K G G P E E A G E S P A E L A A L K E S A R V S S E Q N S A M
 P E G G A S H S K C Q T G S S G L C D V D T E Q K T D T V P M K D S A A E P V S P P T P T V D R D A G S P A V V A S P P I T L A E N E S Q E
 I D E D E G I H S H D G S D L S D N M S E G S D D S G L H G A R P T P P E A T S K N G K A G L A G K V T E G E F V C I F C D R S F R K E K D
 Y S K H L N R H L V N V Y F L E E A A E E Q E E Q E E E E Q E

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

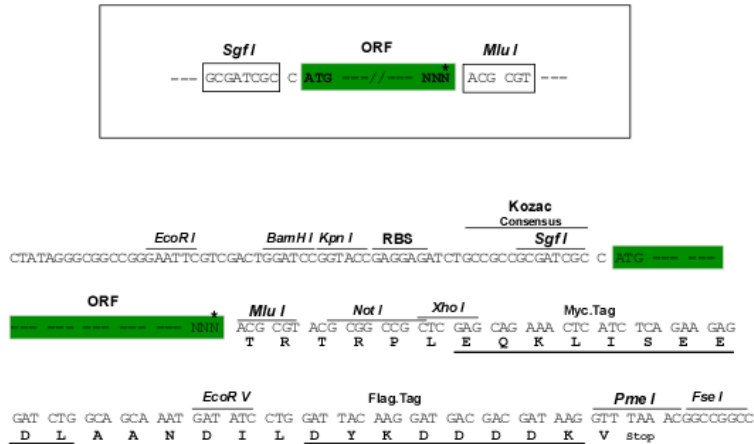
Chromatograms:

https://cdn.origene.com/chromatograms/mm9034_b05.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_011263

ORF Size: 3246 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_011263.2](#), [NP_035393.2](#)

RefSeq Size: 4266 bp

RefSeq ORF: 3249 bp

Locus ID: 19712

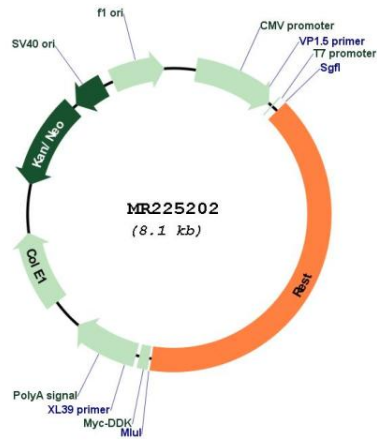
UniProt ID: [Q8VIG1](#)

Cytogenetics: 5 C3.3

MW: 118.2 kDa

Gene Summary: Transcriptional repressor which binds neuron-restrictive silencer element (NRSE) and represses neuronal gene transcription in non-neuronal cells (PubMed:29961578, PubMed:9771705). Restricts the expression of neuronal genes by associating with two distinct corepressors, SIN3A and RCOR1, which in turn recruit histone deacetylase to the promoters of REST-regulated genes (By similarity). Mediates repression by recruiting the BHC complex at RE1/NRSE sites which acts by deacetylating and demethylating specific sites on histones, thereby acting as a chromatin modifier (By similarity). Transcriptional repression by REST-CDYL via the recruitment of histone methyltransferase EHMT2 may be important in transformation suppression (By similarity). Represses the expression of SRRM4 in non-neural cells to prevent the activation of neural-specific splicing events and to prevent production of REST isoform 2 (PubMed:21884984). Repressor activity may be inhibited by forming heterodimers with isoform 2, thereby preventing binding to NRSE or binding to corepressors and leading to derepression of target genes (PubMed:10490617, PubMed:11039732). Also maintains repression of neuronal genes in neural stem cells, and allows transcription and differentiation into neurons by dissociation from RE1/NRSE sites of target genes (PubMed:15907476). Thereby is involved in maintaining the quiescent state of adult neural stem cells and preventing premature differentiation into mature neurons (PubMed:27819263). Plays a role in the developmental switch in synaptic NMDA receptor composition during postnatal development, by repressing GRIN2B expression and thereby altering NMDA receptor properties from containing primarily GRIN2B to primarily GRIN2A subunits (By similarity). Acts as a regulator of osteoblast differentiation (PubMed:25727884). Key repressor of gene expression in hypoxia; represses genes in hypoxia by direct binding to an RE1/NRSE site on their promoter regions (By similarity). May also function in stress resistance in the brain during aging; possibly by regulating expression of genes involved in cell death and in the stress response (PubMed:24670762). Repressor of gene expression in the hippocampus after ischemia by directly binding to RE1/NRSE sites and recruiting SIN3A and RCOR1 to promoters of target genes, thereby promoting changes in chromatin modifications and ischemia-induced cell death (By similarity). After ischemia, might play a role in repression of miR-132 expression in hippocampal neurons, thereby leading to neuronal cell death (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR225202