



**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_198300.3](#), [NP\\_938042.2](#)

**RefSeq Size:** 5792 bp

**RefSeq ORF:** 2151 bp

**Locus ID:** 208922

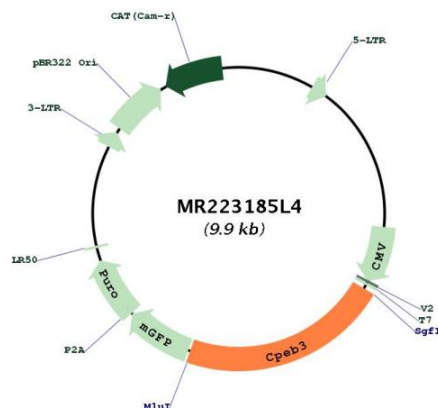
**UniProt ID:** [Q7TN99](#)

**Cytogenetics:** 19 C2

## Gene Summary:

Sequence-specific RNA-binding protein which acts as a translational repressor in the basal unstimulated state but, following neuronal stimulation, acts as a translational activator (PubMed:17024188, PubMed:26074072). In contrast to CPEB1, does not bind to the cytoplasmic polyadenylation element (CPE), a uridine-rich sequence element within the mRNA 3' UTR, but binds to a U-rich loop within a stem-loop structure (PubMed:17024188). Required for the consolidation and maintenance of hippocampal-based long term memory (PubMed:26074003). In the basal state, binds to the mRNA 3' UTR of the glutamate receptors GRIA1 and GRIA2 and negatively regulates their translation (PubMed:17024188, PubMed:22153079). Also represses the translation of DLG4, GRIN1 GRIN2A and GRIN2B (PubMed:24155305). When activated, acts as a translational activator of GRIA1 and GRIA2 (PubMed:22153079, PubMed:26074003). In the basal state, suppresses SUMO2 translation but activates it following neuronal stimulation (PubMed:26074071). Binds to the 3' UTR of TRPV1 mRNA and represses TRPV1 translation which is required to maintain normal thermoception (PubMed:26915043). Binds actin mRNA, leading to actin translational repression in the basal state and to translational activation following neuronal stimulation (PubMed:26074072). Negatively regulates target mRNA levels by binding to TOB1 which recruits CNOT7/CAF1 to a ternary complex and this leads to target mRNA deadenylation and decay (By similarity). In addition to its role in translation, binds to and inhibits the transcriptional activation activity of STAT5B without affecting its dimerization or DNA-binding activity. This, in turn, represses transcription of the STAT5B target gene EGFR which has been shown to play a role in enhancing learning and memory performance (By similarity). In contrast to CPEB1, CPEB2 and CPEB4, not required for cell cycle progression (By similarity). [UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR223185L4