

Product datasheet for **MG217219**

Gemin5 (NM_001166670) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Gemin5 (NM_001166670) Mouse Tagged ORF Clone
Tag: TurboGFP
Symbol: Gemin5
Synonyms: AA407055; AA407208; AI451603; BB194447; C330013N08
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >MG217219 representing NM_001166670
Red=Cloning site Blue=ORF Green=Tags(s)

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GCC**CGATCGCC**

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ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >MG217219 representing NM_001166670
 Red=Cloning site Green=Tags(s)

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A S Y L L S I H K V Y E A V E L L K S N H L Y R E A I A V A K A R L R P E D P V L K E L Y L S W G S I L E R D G H Y A I A A K C Y L G A T S
A Y D A A K V L A R K G D A A S L R T A A E L A A I A G E H E L A A S L A L R C A Q E L L L V K N W V G A Q E A L G L H E S L Q Q R L V F
C L L E L L C R H L E E K Q P L E V R G P S S I Y H Q W A T G S E G T L V Q R V T G V W R S A F S V D T P E Q C Q A A L Q K L Q D V K Y P S
A T S N T P F R Q L L L H V C H D L T L A M L S Q Q A A W E E A V P A L L Q A V V R S Y T S G N F T L M Q E I Y S A F L P G G C D H L R D
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TRTRPLE - GFP Tag - V

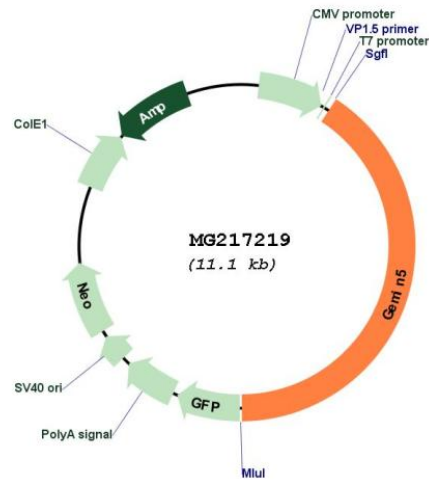
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_001166670

ORF Size: 4503 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_001166670.1](#), [NP_001160142.1](#)

RefSeq Size: 6223 bp

RefSeq ORF: 4506 bp

Locus ID: 216766

UniProt ID: [Q8BX17](#)

Cytogenetics: 11 B1.3

Gene Summary: Required for the assembly of the SMN complex that plays a catalyst role in the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome. Thereby, plays an important role in the splicing of cellular pre-mRNAs. Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP. In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP. Dissociation by the SMN complex of CLNS1A from the trapped Sm proteins and their transfer to an SMN-Sm complex triggers the assembly of core snRNPs and their transport to the nucleus. GEMIN5 acts as the snRNA-binding protein of the SMN complex. Binds to the 7-methylguanosine cap of RNA molecules (By similarity). Binds to the 3' UTR of SMN1 mRNA and regulates its translation; does not affect mRNA stability (PubMed:25911097). May play a role in the regulation of protein synthesis via its interaction with ribosomes (By similarity).[UniProtKB/Swiss-Prot Function]