

## Product datasheet for **MG202250**

### Lin28a (NM\_145833) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Lin28a (NM\_145833) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Lin28a  
**Synonyms:** AL024421; ENSMUSG00000070700; Gm10299; Lin-28; lin-28A; Lin28; Tex17  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG202250 representing NM\_145833  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGGCTCGGTGTCCAACCAGCAGTTTGCAGGTGGCTGCGCCAAGGCAGCGGAGAAGGCCAGAGGAGG  
 CGCCGCTGACGCGGCCGAGCGGCAGACGAGCCGAGCTGTGCACGGGGCCGGCATCTGTAAGTGGTT  
 CAACGTGCGCATGGGTTTCGGCTCCTGTCTATGACCGCCGCTGGGGTTCGGCTCGACCCCCGGT  
 GACGTCTTTGTGACCAAGCAAGCTGCACATGGAAGGGTCCGAAGCCTCAAGGAGGTGAGGCGGTG  
 AGTTCACCTTTAAGAAGTCTGCCAAGGGTCTGGAATCCATCCGTGTCACTGGCCCTGGTGGTGTCTG  
 TATTGGGAGTGAGCGGCCCAAAGGGAAGAATGCAGAAGCGAAGATCCAAAGGAGACAGGTGCTAC  
 AACTGCGGTGGCTAGACCATCATGCAAGGAATGCAAGCTGCCACCCAGCCCAAGAGTGCCACTTTT  
 GCCAAAGCATCAACCATATGGTGGCCTCGTGTCCACTGAAGGCCAGCAGGGCCCGATTCTCAGGGAAA  
 GCCTGCCTACTTCGGGAGGATGAGGAAGAGATCCACAGCCCTGCCCTGCTCCAGAAGCCAGAAT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:** >MG202250 representing NM\_145833  
 Red=Cloning site Green=Tags(s)

MGSVSNQQFAGGCAKAAEKAPPEEAPPDARAADPEQLLHGAGICKWFNVRMGFGFLSMTARAGVALDPPV  
 DVFVHQSKLHMEGFRSLKEGEAVEFTFKKSAKGLSIRVTGPGGVFCIGSERRPKGKNMQKRRSKGDRCY  
 NCGGLDHHAKECKLPPQPKKCHFCQSIINHMVASCLPKAQGPSSQGKPAYFREDEEIIHSPALLPEAQN

**TRTRPLE** - GFP Tag - V

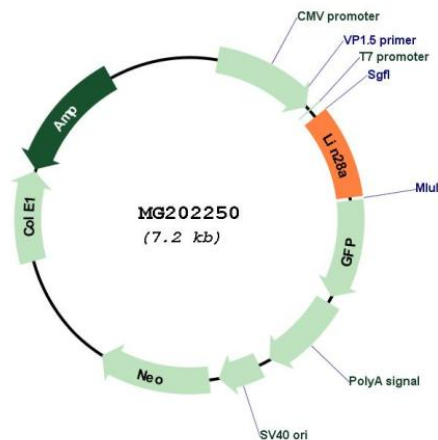
**Restriction Sites:** Sgfl-MluI



Cloning Scheme:



Plasmid Map:



ACCN: NM\_145833

ORF Size: 627 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\\_145833.1](#), [NP\\_665832.1](#)

**RefSeq Size:** 3480 bp

**RefSeq ORF:** 630 bp

**Locus ID:** 83557

**UniProt ID:** [Q8K3Y3](#)

**Cytogenetics:** 4 D2.3

**Gene Summary:** RNA-binding protein that inhibits processing of pre-let-7 miRNAs and regulates translation of mRNAs that control developmental timing, pluripotency and metabolism (PubMed:17473174, PubMed:18604195, PubMed:18566191, PubMed:18292307, PubMed:19703396, PubMed:23102813, PubMed:24209617). Seems to recognize a common structural G-quartet (G4) feature in its miRNA and mRNA targets (PubMed:26045559). 'Translational enhancer' that drives specific mRNAs to polysomes and increases the efficiency of protein synthesis. Its association with the translational machinery and target mRNAs results in an increased number of initiation events per molecule of mRNA and, indirectly, in mRNA stabilization. Binds IGF2 mRNA, MYOD1 mRNA, ARBP/36B4 ribosomal protein mRNA and its own mRNA. Essential for skeletal muscle differentiation program through the translational up-regulation of IGF2 expression (PubMed:17473174). Suppressor of microRNA (miRNA) biogenesis, including that of let-7, miR107, miR-143 and miR-200c. Specifically binds the miRNA precursors (pre-miRNAs), recognizing an 5'-GGAG-3' motif found in pre-miRNA terminal loop, and recruits TUT4 and TUT7 uridylyltransferases. This results in the terminal uridylation of target pre-miRNAs. Uridylated pre-miRNAs fail to be processed by Dicer and undergo degradation. The repression of let-7 expression is required for normal development and contributes to maintain the pluripotent state by preventing let-7-mediated differentiation of embryonic stem cells (PubMed:19703396, PubMed:28671666). Localized to the periendoplasmic reticulum area, binds to a large number of spliced mRNAs and inhibits the translation of mRNAs destined for the ER, reducing the synthesis of transmembrane proteins, ER or Golgi lumen proteins, and secretory proteins (PubMed:23102813). Binds to and enhances the translation of mRNAs for several metabolic enzymes, such as PFKF, PDHA1 or SDHA, increasing glycolysis and oxidative phosphorylation. Which, with the let-7 repression may enhance tissue repair in adult tissue (PubMed:24209617).[UniProtKB/Swiss-Prot Function]