

## Product datasheet for **RR214200**

### Lamtor1 (NM\_199102) Rat Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Lamtor1 (NM\_199102) Rat Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Lamtor1  
**Synonyms:** p18  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Cell Selection:** Neomycin  
**ORF Nucleotide Sequence:** >RR214200 representing NM\_199102  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGGGTCTGCTATAGCAGCGAAAACGAGGACTCGGACCAGGACCAGGAGGAGAGGAAGCTGTTGTTGG  
ACCCAGTAACACCCCTACCAAAGCCCTCAATGGAGCCGAGCCAGCTACCATAGCCTGCCTTCAGCTCG  
CACAGATGAGCAGGCCCTGCTTTCCTCCATCCTTGCCAAGACAGCTAGCAACATCATTGATGTGTCTGCC  
GCAGACTCCAGGCATGGAGCAGCATGAGTACATGGACCGGGCAAGGCAGTACAGTACCCGCTTGCTG  
TGCTTAGCAGCAGTCTGACCCATTGGAAGAAGCTGCCACCGCTGCCATCTCTACCAGCCAGCCCCACCA  
AGTGCTGGCCAGCGAGCCTATCCCTTCTCTGACTTGACGAGGTCTCCAGGATAGCTGCTTATGCCTAT  
AGTGCACTTTCTCAGATCCGCGTGGATGCGAAAGAAGAGCTGGTTGTACAGTTTGGGATCCCA

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RR214200 representing NM\_199102  
Red=Cloning site Green=Tags(s)

MGCCYSSENEDSDQDQEERKLLLDPSNTPKALNGAEPHYSLPSARTDEQALLSSILAKTASNIIDVSA  
ADSQMEQHEYMDRARQYSTRLAVLSSSLTHWKKLPLPLSLTSQPHQVLAASEPIPFSDLQQVSRIAAAY  
SALSQIRVDAKEELVVQFGIP

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:** SgfI-MluI

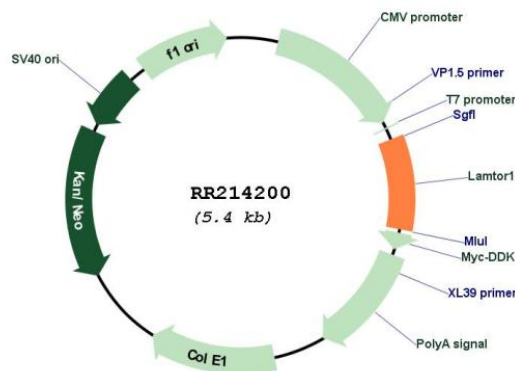


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Cloning Scheme:



Plasmid Map:



ACCN: NM\_199102

ORF Size: 483 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.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<u>NM_199102.1, NP_954533.1</u>
<b>RefSeq Size:</b>	1118 bp
<b>RefSeq ORF:</b>	486 bp
<b>Locus ID:</b>	308869
<b>UniProt ID:</b>	<u>Q6P791</u>
<b>Cytogenetics:</b>	1q32
<b>MW:</b>	17.7 kDa
<b>Gene Summary:</b>	<p>As part of the Ragulator complex it is involved in amino acid sensing and activation of mTORC1, a signaling complex promoting cell growth in response to growth factors, energy levels, and amino acids. Activated by amino acids through a mechanism involving the lysosomal V-ATPase, the Ragulator functions as a guanine nucleotide exchange factor activating the small GTPases Rag. Activated Ragulator and Rag GTPases function as a scaffold recruiting mTORC1 to lysosomes where it is in turn activated. LAMTOR1 is directly responsible for anchoring the Ragulator complex to membranes. Also required for late endosomes/lysosomes biogenesis it may regulate both the recycling of receptors through endosomes and the MAPK signaling pathway through recruitment of some of its components to late endosomes. May be involved in cholesterol homeostasis regulating LDL uptake and cholesterol release from late endosomes/lysosomes. May also play a role in RHOA activation (By similarity).[UniProtKB/Swiss-Prot Function]</p>