

## Product datasheet for **MC222634**

### **Rb1 (NM\_009029) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Rb1 (NM_009029) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Rb1
Synonyms:	pRb; Rb; Rb-1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:**

>MC222634 representing NM\_009029  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCCGCCAAAGCCCCGCGCAGAGCCGCGGCCGCGAGCCCCGCCACCGCCGCCGCCGCCCTCGGG  
 AGGACGACCCCGCGCAGGACAGCGGCCCGAAGAGCTGCCCTGGCCAGGCTTGAGTTTGAAGAAATTGA  
 AGAACCCGAATTTATTGCATTATGTCAAAAGTTAAAGGTACCCGATCATGTCAGAGAAAGAGCTTGCTA  
 ACTTGGGAGAAAGTTTCATCCGTGGATGGAATCCTGGAAGGATATATTCAAAGAAGAAGGAACTCTGGG  
 GCATCTGCATCTTTATCGCAGCAGTTGATCTAGATGAGATGCCATTCACTTTTACTGAGCTACAGAAAAG  
 CATAGAAACCAGTGTCTATAAATCTTTGACTTATTAAGAAATCGATACCAGTACCAAGTTGATAAT  
 GCTATGTCAAGACTATTGAAGAAGTATAATGTGTTATGTGCACTCTACAGCAAATTAGAACGGACGTGTG  
 AACTTATATATTTGACACAACCCAGCAGTGCCTTACTACTGAAATAAATCTATGTTGGTCTAAAAAT  
 TTCTTGGATCACTTTTTACTAGCTAAAGGAGAAGTATTACAGATGGAAGATGACCTGGTAAATCTCATT  
 CAGCTAATGTTGTGTGATGTTGACTATTTTATAAGTTCTCACCTCTGCACTACTCAGAGAGCCATACA  
 AAACAGCTGCAATCCCCATTAATGGTTCACCTCGAACACCCAGAAGAGGTGAGAACAGGAGCGCTCGGAT  
 AGCAAAACAACAGAAAATGATACGAGGATTATCGAGGTTCTCTGTAAAGAACACGAGTGAATATAGAT  
 GAGGTGAAAAATGTTTATTTCAAAAATTTATCCCTTTTATAAATTCACCTTGGAAATGATCATCTAATG  
 GACTTCCAGAGGTTGAAAGTCTTTCTAAACGCTATGAAGAAGTTTATCTTAAAAACAAGATTTAGATGC  
 AAGACTGTTTTGGATCATGATAAAACACTTCAGACTGATCCTATAGACAGTTTTGAAACAGAGAGAACC  
 CCACGAAAAACAACCCCTGATGAAGAGGCAAACGTGGTTACTCCACACACTCCAGTTAGGACTGTTATGA  
 ATACTTCAACAATTAATGGTGATTTTAAATTTGCAAGTGATCAGCCATCAGAAAATCTGATTTCCCTA  
 CTCAATAATTGCACAGTGAATCCAAAAGAAAATATCCTAAAGAGAGTAAAGGATGTTGGGCACATCTTT  
 AAAGAGAAGTTTGCTAACGCTGTGGGCCAGGGCTGTGTTGACATCGGAGTACAGCGATATAAACTTGGAG  
 TCCGATGTTATTACCGTGTGATGGAATCCATGCTTAAATCAGAAGAAGAAGCTTTGTCCATTAGAATTT  
 TAGCAAATCCTAAATGACAACATCTTTCATATGTCTTTACTGGCCTGTGCTCTTGAAGTTGTAATGGCT  
 ACGTATAGCAGAAGTACATTGCAGCATCTTGATTCTGGAACAGATTTGCCTTCCCGTGGATTCTGAACG  
 TACTTAATTTAAAAGCCTTTGATTTTTACAAAGTATTGAAAGTTTTATCAAAGTGAAGCCAACCTTGAC  
 AAGAGAAATGATAAAACATTTAGAAAGATGTGAGCATCGAATCATGGAATCCCTGTCATGGCTTTCAGAT  
 TCACCTTTATTTGATCTCATTAAAGCAGTCCAAGGATGGAGAAGGACCTGATAACCTTGAACCTGCTTGC  
 CTCTCAGCCTGCCTCTCCAGGGTAACCACTACTGCAGCAGATATGTATCTTCTCCTTAAGATCTCCAAA  
 GAAAAGAACTTCCACTACACGTGTAATTTCTGCTGCAAATACAGAGACACAAGCAGCCTCAGCCTCCAT  
 ACTCAGAAGCCATTGAAATCTACCTCCCTTGCCTGTTTTACAAAAAGTGTACCGTCTAGCATATCTCC  
 GACTAAATACACTCTGTGCACGCCTTCTGTCTGACCACCCAGAGCTAGAGCACATCATCTGGACTCTGTT  
 TCAGCATACATTGCAAAATGAGTATGAGCTCATGAGAGACCGACATTTGGACCAGATTATGATGTGCTCT  
 ATGTATGGCATCTGCAAGGTGAAGAATCGACCTCAAGTTCAAATCATCGTCACTGCCTACAAGGATC  
 TTCTCAGCCTGCCAGGAGACCTTTAAACGTGTTTGTGATCAGAGAAGAGGAGTTTGATTCCATTATAGT  
 ATCTATAAATCCGTTTTTCATGCAGAGACTAAAAACAATATTTTACAGTATGCCTCCACCAGGCCTCCT  
 ACCTTGTCAACCAATACCTCACATTCCTCGAAGCCCTTACAAGTTTTCTAGTTACCCCTTACGGATTCTCG  
 GAGGTAACATCTATATACCCCTAAAGAGTCTTATAAAATTTCAGAAGGTCTGCCAACCCACAAA  
 AATGACTCCGAGATCAAGAATCTTGGTCTCAATTTGGTGAATCATTTGGGACATCTGAAAAGTTCCAGAAA  
 AATAACCAGATGGTGTGTAATAGTGACAGAGTGTCAAAGAAGTGTGAAGGCGCAACCCCAAC  
 CACTGAAAAGCTGCGCTTTGACATCGAGGGAGCCGATGAAGCAGATGGGAGTAAACATCTCCAGCGGA  
 GTCCAAATTCACAGAACTGGCAGAAATGACTTCCACTCGAACACGAATGCAAAAGCAGAGAATGAAT  
 GAGAGCAAGGATGTCTCAACAAGGAGGAAAAG**TGA**

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:**

SgfI-MluI

<b>ACCN:</b>	NM_009029
<b>Insert Size:</b>	2766 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<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>	<a href="#">NM_009029.2</a> , <a href="#">NP_033055.2</a>
<b>RefSeq Size:</b>	4642 bp
<b>RefSeq ORF:</b>	2766 bp
<b>Locus ID:</b>	19645
<b>UniProt ID:</b>	<a href="#">P13405</a>
<b>Cytogenetics:</b>	14 D3

**Gene Summary:**

Key regulator of entry into cell division that acts as a tumor suppressor. Promotes G0-G1 transition when phosphorylated by CDK3/cyclin-C. Acts as a transcription repressor of E2F1 target genes. The underphosphorylated, active form of RB1 interacts with E2F1 and represses its transcription activity, leading to cell cycle arrest. Directly involved in heterochromatin formation by maintaining overall chromatin structure and, in particular, that of constitutive heterochromatin by stabilizing histone methylation. Recruits and targets histone methyltransferases SUV39H1, KMT5B and KMT5C, leading to epigenetic transcriptional repression. Controls histone H4 'Lys-20' trimethylation. Inhibits the intrinsic kinase activity of TAF1. Mediates transcriptional repression by SMARCA4/BRG1 by recruiting a histone deacetylase (HDAC) complex to the c-FOS promoter. In resting neurons, transcription of the c-FOS promoter is inhibited by BRG1-dependent recruitment of a phospho-RB1-HDAC1 repressor complex. Upon calcium influx, RB1 is dephosphorylated by calcineurin, which leads to release of the repressor complex (By similarity).[UniProtKB/Swiss-Prot Function]