

## Product datasheet for **RC400165**

### Rb (RB1) (NM\_000321) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	Rb (RB1) (NM_000321) Human Mutant ORF Clone
Mutation Description:	R661W
Affected Codon#:	661
Affected NT#:	c.1981
Nucleotide Mutation:	RB1 Mutant (R661W), Myc-DDK-tagged ORF clone of Homo sapiens retinoblastoma 1 (RB1) as transfection-ready DNA
Effect:	Missense
Symbol:	RB1
Synonyms:	OSRC; p105-Rb; p110-RB1; pp110; PPP1R130; pRb; RB
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000321
ORF Size:	2784 bp
Restriction Sites:	Sgfl-RsrII



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**ORF Nucleotide Sequence:**

>RC400165 representing NM\_000321  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGCCGCCAAAACCCCGAAAAACGGCCGCCACCGCCGCCGCTGCCGCCGGAAACCCCGGCACCGC  
 CGCCGCCGCCCTCCTGAGGAGACCCAGAGCAGGACAGCGGCCGGAGGACCTGCCTCTCGTCAGGCT  
 TGAGTTTGAAGAAACAGAAACCTGATTTTACTGCATTATGTCAGAAATTAAGATACCAGATCATGTC  
 AGAGAGAGAGCTTGGTTAACTTTGGGAGAAAGTTTCATCTGTGGATGGAGTATTGGGAGGTATATTCAA  
 AGAAAAAGGAAGTGTGGGAATCTGTATCTTTATTGCAGCAGTTGACCTAGATGAGATGTCGTTCACTTT  
 TACTGAGCTACAGAAAAACATAGAAATCAGTGTCCATAAATCTTTAACTTACTAAAAGAAATTGATAACC  
 AGTACCAAAGTTGATAATGCTATGTCAAGACTGTTGAAGAAGTATGATGATTGTTTGCCTCTTCAGCA  
 AATTGGAAAGGACATGTGAAGTATATATTTGACACAACCCAGCAGTTTCGATATCTACTGAAATAAATTC  
 TGCATTGGTGCTAAAAGTTTCTGGATCACATTTTATTAGCTAAAGGGGAAGTATTACAATGGAAGAT  
 GATCTGGTGATTTCAATTCAGTTAATGCTATGTGTCCTTGACTATTTTATAAATCTCACCTCCCATGT  
 TGCTCAAAGAACCATATAAAACAGCTGTATACCCATTAAATGGTTCACCTCGAACACCCAGGCGAGGTCA  
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 CATGAATGTAATATAGATGAGGTGAAAAATGTTTATTTCAAAAATTTTATACCTTTTATGAATTCCTTG  
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 AGCAGAAGGCAACTTGACAAGAGAAATGATAAAACATTTAGAAGATGTGAACATCGAATCATGGATCC  
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 ATCACCTTGAATCTGCTTGCCTCTTAATCTTCTCTCCAGAATAATCACACTGCAGCAGATATGTATCT  
 TTCTCCTGTAAGATCTCAAAGAAAAAGGTTCAACTACGCGTGTAAATCTACTGCAAAATGCAGAGACA  
 CAAGCAACCTCAGCCTCCAGACCCAGAAGCCATTGAAATCTACCTCTCTTTCACTGTTTATAAAAAAG  
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 ACATATCATCTGGACCTTTTCCAGCACACCCTGCAGAATGAGTATGAACTCATGAGAGACAGGCATTTG  
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 AAGGAAGCAACCTCCTAAACACTGAAAAACTACGCTTTGATATTGAAGGATCAGATGAAGCAGATGG  
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 ATGCAAAAAGCAGAAAAATGAATGATAGCATGGATACCTCAAACAAGGAAGAGAAA

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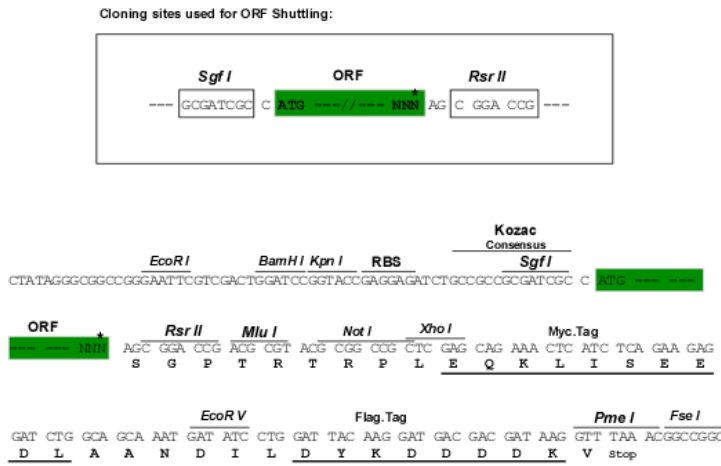
**Protein Sequence:** >RC400165 representing NM\_000321  
 Red=Cloning site Green=Tags(s)

MPPKTPRKTAATAAAAAEPPAPPPPPPEEDPEQDSGPEDLPLVRLFEFEETEEPDTALCQKLIKIPDHV  
 RERAWL TWEKVSSVDGVLGGYIQKKELWGICIFIAAVLDDEMSFTTELQKNIEISVHKFFNLLKEIDT  
 STKVDNAMSRLKKYDVL FALFSKLERTCELIYLTQPSSSISTEINSALVLKVSWITFLAKGEVLQMED  
 DLVISFQLMLCVLDYFIKLSPPMMLLKEPYKTAVIPINGSRPTPRRGQNRSARIAKQLENDTRIEVLCKE  
 HECNIDEVKNVYFKNFIPFMNSLGLVTSNGLPEVENLSKRYEEIYLKKNKDLARLFLDHDKTLQTDIDS  
 FETQRTPRKSNLDEEVNIPPHTPVRTVMNTIQQLMMILNSASDQPSENLISYFNNTVNPKESILKRVK  
 DIGYIFKEKFAKAVGQGCVEIGSQRYKLGVRLYRVMESMLKSEEERLSIQNFSKLLNDNIFHMSLLACA  
 LEVVMATYSRSTSQLNSDGTDL SFPWILNVLNLKAFDFYKVI ESF IKAEGNL TREMIKHLERCEHRIMES  
 LAWLSDSPLFDLIKQSKDREGPTDHLESACPLNLPLQNNHTAADMYLSPVRSPPKKGGSTTRVNSTANAET  
 QATSAFQTQKPLKSTSLSLFYKKVYRLAYLWNLTL CERLL SEHPELEHI IWTLFQHTLQNEYELMRDRHL  
 DQIMMCSMYGICKVKKNIDLKFKIIVTAYKDLPHAVQETFKRVL IKEEEYDSII VFYNSVFMQRLKTNILQ  
 YASTRPPTLSPIPHIPRSPYKFPSSPLRIPGGNIYISPLKSPYKISEGLPTPTKMTPRSRILV SIGESFG  
 TSEKFKQINQMVCNSDRVLKRSAEGSNPPKPLKRLFDIEGSDEADGSKHLPGESKFKQKLAEMTSTRTR  
 MQKQKMNDSDMTSNKEEK

SGPTRRRL**E**QKL**I**SEED**L**AAND**I**LDYK**D**DDDKV

**Restriction Sites:** SgfI-RsrII

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

<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>OTI Annotation:</b>	<p>This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.</p>
<b>Components:</b>	<p>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).</p>
<b>RefSeq:</b>	<p><a href="#">NP_000312</a></p>
<b>RefSeq Size:</b>	<p>4772 bp</p>
<b>RefSeq ORF:</b>	<p>2787 bp</p>
<b>Locus ID:</b>	<p>5925</p>
<b>Cytogenetics:</b>	<p>13q14.2</p>
<b>Domains:</b>	<p>RB_B, RB_A, CYCLIN</p>
<b>Protein Families:</b>	<p>Druggable Genome, Transcription Factors</p>
<b>Protein Pathways:</b>	<p>Bladder cancer, Cell cycle, Chronic myeloid leukemia, Glioma, Melanoma, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Prostate cancer, Small cell lung cancer</p>
<b>MW:</b>	<p>106 kDa</p>
<b>Gene Summary:</b>	<p>The protein encoded by this gene is a negative regulator of the cell cycle and was the first tumor suppressor gene found. The encoded protein also stabilizes constitutive heterochromatin to maintain the overall chromatin structure. The active, hypophosphorylated form of the protein binds transcription factor E2F1. Defects in this gene are a cause of childhood cancer retinoblastoma (RB), bladder cancer, and osteogenic sarcoma. [provided by RefSeq, Jul 2008]</p>