

## Product datasheet for **RR201548**

### Usp10 (NM\_001034146) Rat Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Usp10 (NM_001034146) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Usp10
Synonyms:	MGC124997
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**ORF Nucleotide Sequence:**

>RR201548 representing NM\_001034146  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCCTCCACAACCCACAGTATATTTTTGGCGATTTCAGCCCTGATGAATTCAATCAGTTTTTTGTGA  
 CTCCCGCTCTTTCAGTCGAGCTCCCTCCATACAGTGGGACTCAGTGTGGCATTTCAGGCTGAAGAGGAACT  
 TCTGGACGGACAAGAATCAGAGGATTGAGTTTGGTGTAGACGAAGTCATCGAACCCAGTGATGGTCTG  
 CAGAGAGCCCCTAGCTACAGTATTTCAAGCACCTTGAACCCTCAGGCACCTGAATTTATCCTTGGTTGTC  
 CAACTTCCAAGAAGACCCCTGATGACATAGAAAAAGACGAGACCTACAGCTCCATTGATCAGTACCCGGC  
 CTCAGCCTTGGCTCTGAAAGCAGCTCTAACGCAGAGGCCGAGACCTGGAGAATGACAGTGGCGCTGGT  
 GGTCTTGGTCAGAGGGAGCGGAAGAAGAAGAAGCGGCCCTGGGACTACAGTTATCTGAAAGATG  
 GTAGTGAAGAGGGTCTTCCCGGCCCTTGTCAACGGCCATGCCACGTCAGTGGGCACGAACAGCGA  
 GGGTGTGGAGGATCCTGAGTTCATGGTGGACATGCTTCTTCAGTCATGCCAGGACTTGTGACAGCCCT  
 CAGAACCCATGGACTTAATCAGTGACCCTGTCCCTGATAGTCCCTTCCCGAGGACACTAGTGGTGATG  
 CAGGACTGCAGGACTGCCTGAGGGCTGCCGTGAAACTGACTTTGAGCAGCCCTGCCTCCCTACAGACAA  
 CCTGCTAAGGACAGCTGTGACGCAGCCCAACGCTGGCGCCGACACTACTGAGAACCCTCGCAGTTGCTAAT  
 GGAAAAACTTGAATCCTTGGGCGAGGGCACTGCTGCTGCCAATGGGGTAGAGCTGCACACTGATGAGA  
 GTGCAGACTTGGACCCTGCGAAGCCTGAGAGCCAGTCACTCCTGCCGAAAGTGCCTCTCTGTCTCTGG  
 CGCCATTTCCATTAGCCAACCTGCAAAGTCTGGGCTAGCCTCTTTCATGATTCTAAGCCTTCTTCTCC  
 TCACCCGTGGCGTATGTGAAACTAAGTGTCCCGCTGTCCCGTCCCGCTGGCCTTGAAAAACAGA  
 TGAAGTCAAAGAAGGGCTTGTCCCGTGTGAGAGGCCCGTAGCCATAAAGATTGCAGATTATTGGA  
 GACTGTAACCCTAGTACATAAGCCAGTGTATTGCAACCCCGTGGGCTGATCAATAAAGGAACTGGTGC  
 TACATTAATGCCACCCTGCAGGCATTGGTGGCTTGCCTCCGATGTATCACCTGATGAAGTTCATTCCTC  
 TGTACTCAAAGTGCAAAGGCCGTGCACGTCCACGCCATGATAGATAGCTTTGTTGGGCTCATGAACGA  
 GTTTACTAATATGCCAGTACCTCCAAACCCCGCAAGCTCTTGGGGATAAAATCGTGAGAGATATCCGC  
 CCAGGAGCTGCCTTTGAACCCACATACATTTATCGACTCCTGACAGTCATCAAGTCGAGCCTGTCTGAAA  
 AGGGCCGACAGGAGGACGCCGAGGAGTACCTAGGCTTTCCTCAATGGACTCCACGAGGAGATGCTGAG  
 CCTGAAGAAGCTTCTCTACCCACGCACGAAAAGCACTCTGTTTCTAATGGGCCCGAAGCCACTTGATA  
 GAGGATGAGGAGCTGGAAGACACAGGCGAGGGCAGTGAGGACAGTGGGAGCAAGTGGGTCCCAAGAACA  
 AGACGTCTGTACCCGGCAGGCGGATTTGTTTCAGACGCCTATCACTGGCATTTCGGTGGACACATCAG  
 GTCTGTGGTTTACCAGCAGAGTTCAAAAGAACTGCCACGCTGCAGCCATTTTTCACACTGCAGTTGGAC  
 ATCCAGTCCGACAAGATTCGCACAGTCCAGGATGCCTTGAAAGCTTGGTGGCAAGAGAGTCTGTCCAGG  
 GCTACACCACCAAGACCAAGCAGGAGGTTGAAGTCAGCCGTAGAGTACTCTGGAGAAGCTTCCCGCTGT  
 CCTTGTGCTCCACCTGAAGCGCTTCGTCTATGAGAAGACGGGCGGATGCCAGAAGCTCGTCAAGAATC  
 GAGTACCCTGTGGACTTGGAGATCAGCAGAGAAGTCTTCTCCAGGCGTCAAAAATAAAAACTTTAAAT  
 GCCACAGAACCTATAGGCTGTTTCGAGTGGTCTACCATCATGGCAACAGTGTACAGGTGGCCACTACAC  
 CACGGACGTCTTCCAGATTGGGCTTAACGGCTGGCTGCGAATTGATGACCAGACGGTCAAGGTTATCAAC  
 CAGTACCAGGTGGTGGAGCAAGTGTGACCGCACCGCCTACCTCCTGTATTACCGCCGTGTGGACCTGC  
 TG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RR201548 representing NM\_001034146  
 Red=Cloning site Green=Tags(s)

MALHNPQYIFGDFSPDEFNQFFVTPRSSVELPPYSGTQCGIQAEELLDGQEHQRIEFGVDEVIEPSDGL  
 QRAPSYSISSTLNPQAPEFILGCPTSKKTPDDIEKDETYSSIDQYPASALALESSNAEATLENDGAG  
 GLGQREKRRKKRPPGYYSYLKDGSEEGASPAALVNGHATSVGTNSEGVEDPEFMVDMLPSVMPRTCDSP  
 QNPMDLISDPVPDSPFPRTLGGDARTAGLPEGCRETDQFQCLPTDNLRLTAVTQPNAGADTTENLAVAN  
 GKILESLEGETAANGVELHTDESADLDPAPKESQSPPAESALSVSGAISISQPAKSWASLFHDSKPSSS  
 SPVAYVETKCSPPVPSPLASEKQMEVKEGLVPVSEDPVAIKIAELLETVTLVHKPVSLQPRGLINKGNWC  
 YINATLQALVACPPMYHLMKFIPLYSKVQRPCTSTPMIDSFVRLMNEFTNMPVPPKPRQALGDKIVRDIR  
 PGAAFPTYIYRLLTVIKSSLSEKGRQEDAEEYLGFIINLHEEMLSLKLLSPTHEKHSVSNPGSHLI  
 EDEELEDTEGSEDEWEQVGPKNKTSVTRQADFVQTPITGIFGGHIRSVVYQQSSKESATLQPFRTLQLD  
 IQSDKIRTVQDALESLVARESVQYTTTKQEEVSRRTLEKLPVVLVHLKRFVYEKGGCQKLVKNI  
 EYPVDLEISRELLSPGVKNKFKCHRTYRLFVAVYHHGNSATGGHYTTDFQIGLNGWLRIDDQTVKVIN  
 QYQVVRPSADRTAYLLYRRVDLL

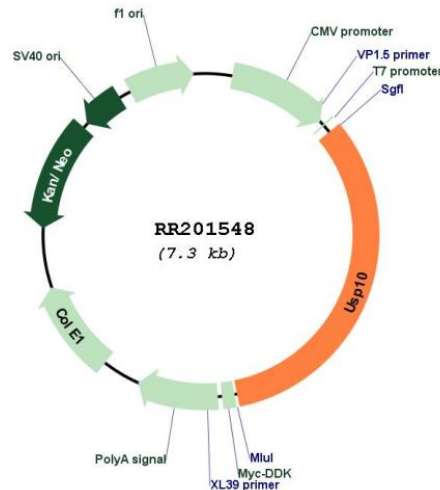
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfi-MluI

Cloning Scheme:



**Plasmid Map:**


**ACCN:** NM\_001034146

**ORF Size:** 2382 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\\_001034146.1](#), [NP\\_001029318.1](#)

**RefSeq Size:** 3287 bp

**RefSeq ORF:** 2385 bp

**Locus ID:** 307905

**UniProt ID:** [Q3KR59](#)

**Cytogenetics:** 19q12

**MW:** 87.3 kDa

**Gene Summary:** Hydrolase that can remove conjugated ubiquitin from target proteins such as p53/TP53, BECN1, SNX3 and CFTR. Acts as an essential regulator of p53/TP53 stability: in unstressed cells, specifically deubiquitinates p53/TP53 in the cytoplasm, leading to counteract MDM2 action and stabilize p53/TP53. Following DNA damage, translocates to the nucleus and deubiquitinates p53/TP53, leading to regulate the p53/TP53-dependent DNA damage response. Component of a regulatory loop that controls autophagy and p53/TP53 levels: mediates deubiquitination of BECN1, a key regulator of autophagy, leading to stabilize the PIK3C3/VPS34-containing complexes. In turn, PIK3C3/VPS34-containing complexes regulate USP10 stability, suggesting the existence of a regulatory system by which PIK3C3/VPS34-containing complexes regulate p53/TP53 protein levels via USP10 and USP13. Does not deubiquitinate MDM2. Deubiquitinates CFTR in early endosomes, enhancing its endocytic recycling. Involved in a TANK-dependent negative feedback response to attenuate NF-kappaB activation via deubiquitinating IKBKG or TRAF6 in response to interleukin-1-beta (IL1B) stimulation or upon DNA damage. Deubiquitinates TBX21 leading to its stabilization. [UniProtKB/Swiss-Prot Function]