

Product datasheet for **RC202190**

USP13 (NM_003940) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	USP13 (NM_003940) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	USP13
Synonyms:	IsoT-3; ISOT3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC202190 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCAGCGCCGGGGCCCTGTTCGGCATGCCGGCGGCAGCGGAGGCAGGAAGATGGCTGCAGGAGACA
 TCGGCGAGCTGCTAGTGCACCATGCCACGATCCGCGTGCCAGGTCGGCGACAGGGTCTACAAGAA
 CGAGTGGCCTTCTCCTACGACTCTCCCAATCTGAAGGTGGACTCTATGTATGCATGAATACATTTTGG
 GCCTTTGGAAGGGAACATGTTGAAAGACATTTTCGAAAACTGGACAGAGTGATACATGCACCTGAAAA
 GACATGTGCGAGAGAAGGTAAGAGGGGCGTCTGGTGGAGCGTTACCAAAAAGGAGGAATCCAAGATTTT
 TTTAGATCTAGATACTGATGACGATTTAAATAGCGACGATTATGAATATGAAGATGAAGCCAACTTGTT
 ATATCCAGATCACTATGAAATAGCACTACCAAATATTGAGGAGTTACCAGCCCTGGTAACAATTGCTT
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 GTTCTTTTGACAGCTCTGGGGGCAACGGGCATGCGCTGGAGCATTACAGAGACATGGGCTACCCACTAGC
 CGTGAAACTGGGAACCATCACTCCTGACGGGCGAGATGTTTATTCTTTTCAAGAAGAAGAACTGTTTTG
 GATCCTCATTGGCCAAGCACTTAGCGCATTTTGGAAATTGATATGCTTCATATGCATGGGACAGAGAATG
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 GAAGCCAATGTATGGTCTGGCTACACGGGTCTGAAGAACCTGGCAACAGCTGCTATCTCAGCTCTGTC
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 ACTCGCTTTAGATCCAACACAAGATTTCAACACACAGATGACTAAGTTAGGACATGGCCTCTCTCAGG
 CCAGTATTCAAAGCCTCCGGTGAATCTGAACCTATTGAACAGGTGATGAAGGAGGAGCACAAGCCACAG
 CAGAACGGGATCTCTCCGCGCATGTTTAAAGCCTTTGTAAGCAAGAGCCACCCGGAATTCCTCTAACA
 GGCAGCAAGATGCCAGGAATCTTCTTGCACCTGGTGAATCTAGTAGAGAGGAACCGCATCGGCTCAGA
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 TGATCGCTTATGAACTAACGAGAAGGGAAGCAGAAGCAACAGAACCCCTTCTGAGTTGGTACGTGC
 CAAGATACCATTAGTGCCTGCCTCAGGCCTTCTGTAACCAGAAAATGTTGATGATTTCTGGAGCAGT
 GCCCTACAAGCAAAGTCTGCGGGTGTGAAAACATCTCGCTTTGCTTCATCCCTGAATACTTGGTAGTGC
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 CCTACTTGATATCAACCATCTCCGAGCCAGGGGTTACAGCCAGGAGAGGAAGAATCCAGACATCAGC
 CCCCCATAGTCATTCTGATGACTCAAAAGATCGCCTGATGAACCAATTGATAGACCCATCAGACATCG
 ATGAGTCATCAGTGCAGCTGGCCGAGATGGGTTTCCGCTGGAAGCATGTGCGCAAGGCTGTGTAAT
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 CCGAAGGACCTAGAGTCAAGGATGGATCTGGAACATATGAGCTATTTGCATTCATCAGTCACATGGGAAC
 ATCCACAATGAGTGGTCAATTACATTTGCCATATCAAAAAGGAAGGAAGATGGGTGATTTACAATGACCAC
 AAAGTTTGTGCTCAGAAAAGGCCCTAAAGACCTGGGCTACATGTACTTTACCGCAGGATACCAAGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC202190 protein sequence
 Red=Cloning site Green=Tags(s)

MQRRGALFGMPGGSGGRKMAAGDIGELLVPHMPTIRVPRSGDRVYKNECAFSDSPNSEGGLYVCMNTFL
 AFGREHVERHFRKTGQSVYMHKLRHVREKVRGASGGALPKRRNSKIFLDLDTDDDLNSDDYEYDEAKLV
 IFPDHYEIALPNIEELPALVTIACDAVLSSKSPYRKQDPDTWENELPVSKYANNLTQLDNGVRIPPSGKW
 CARCDLRENWLNLTDGSVLCGKWFDDSSGGNGHALEHYRDMGYPLAVKLGITITPDGADVVSFQEEEPVL
 DPHLAKHLAHFGIDMLHMGTENGLQDNDIKLRVSEWEVIQESGTKLKPMYGPYTGKLNKLGNSCYLSSV
 MQAIFSIPEFQRAYVGNLPRIFDYSPLDPTQDFNTQMTKLGHGLLSGQYSKPPVKSELIEQVMKEEHKPKQ
 QNGISPRMFKAFVSKSHPEFSSNRQDAQEFFLHLVNLVERNRIIGSENPSDVFRFLVEERIQQCQTRKVR
 YTERVDYLMQLPVAMEAATNKDELIAYELTRREAEANRRPLPELVRAKIPFSACLQAFSEPENVDFFWSS
 ALQAKSAGVKTSRFASFPEYLVVQIKKFTFGLDWVPKKFDVSDIMPDLLDINHLRARGLQPGEEELPDIS
 PPIVIPDDSKDRLMNQLIDPSDIDESSVMQLAEMGFLEACRKAVYFTGNMGAEVAFNWIIVHMEEPDFA
 EPLTMPGYGGAASAGASVFGASGLDNQPPEEIVAIITSMGFQRNQAIQALRATNNLRLALDWIFSHPEF
 EEDSDFVIEMENNANANIISEAKPEGPRVKDGSPTYELFAFISHMGTSTMSGHYICHIKKEGRWVIYNDH
 KVCASERPPKDLGYMYFYRRIPS

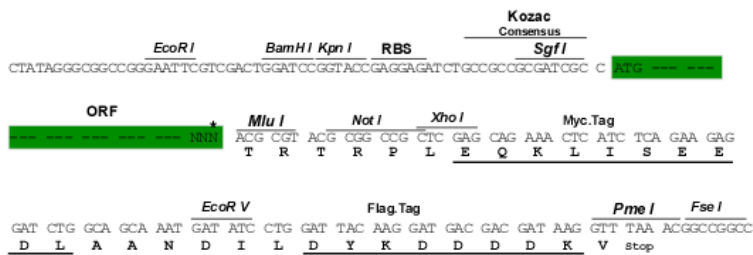
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6003_b11.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

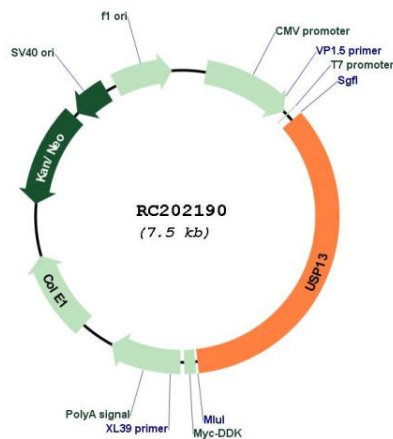


* The last codon before the Stop codon of the ORF

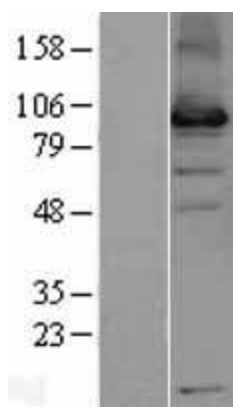
ACCN:	NM_003940
ORF Size:	2589 bp
OTI Disclaimer:	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own 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:	<ol style="list-style-type: none">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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_003940.3
RefSeq Size:	7933 bp
RefSeq ORF:	2592 bp
Locus ID:	8975
UniProt ID:	Q92995
Cytogenetics:	3q26.33
Domains:	UBA, UCH, zf-UBP
Protein Families:	Druggable Genome, Protease
MW:	97.3 kDa

Gene Summary:

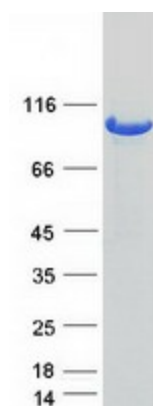
Deubiquitinase that mediates deubiquitination of target proteins such as BECN1, MITF, SKP2 and USP10 and is involved in various processes such as autophagy and endoplasmic reticulum-associated degradation (ERAD). Component of a regulatory loop that controls autophagy and p53/TP53 levels: mediates deubiquitination of BECN1, a key regulator of autophagy, leading to stabilize the PIK3C3/VPS34-containing complexes. Also deubiquitinates USP10, an essential regulator of p53/TP53 stability. In turn, PIK3C3/VPS34-containing complexes regulate USP13 stability, suggesting the existence of a regulatory system by which PIK3C3/VPS34-containing complexes regulate p53/TP53 protein levels via USP10 and USP13. Recruited by nuclear UFD1 and mediates deubiquitination of SKP2, thereby regulating endoplasmic reticulum-associated degradation (ERAD). Also regulates ERAD through the deubiquitination of UBL4A a component of the BAG6/BAT3 complex. Mediates stabilization of SIAH2 independently of deubiquitinase activity: binds ubiquitinated SIAH2 and acts by impairing SIAH2 autoubiquitination. Has a weak deubiquitinase activity in vitro and preferentially cleaves 'Lys-63'-linked polyubiquitin chains. In contrast to USP5, it is not able to mediate unanchored polyubiquitin disassembly. Able to cleave ISG15 in vitro; however, additional experiments are required to confirm such data.[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for RC202190



Western blot validation of overexpression lysate (Cat# [LY401292]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202190 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified USP13 protein (Cat# [TP302190]). The protein was produced from HEK293T cells transfected with USP13 cDNA clone (Cat# RC202190) using MegaTran 2.0 (Cat# [TT210002]).