

## Product datasheet for **RC208051**

### USP20 (NM\_006676) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	USP20 (NM_006676) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	USP20
Synonyms:	hVDU2; LSFR3A; VDU2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide  
Sequence:**

>RC208051 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGGGACTCCAGGACCTTTCCTCACCTTGACTCCATAGGAGAGGTGACCAAAGAGGACTTGCTGC  
 TCAATCTAAGGGAACCTGTCAGTCGTGTGGGGTACCGACCAAACCTATGGCCCTGTCTGCAGTTGC  
 CTGCCCTATGTTGGCTGCGGAGAATCCTTCGCTGACCACAGCACCATTTCATGCACAGGCAAAAAAGCAC  
 AACTTGACCGTGAACCTGACCACGTTCCGACTGTGGTGTACGCCTGTGAGAAGGAGGTATTCTGGAGC  
 AGCGGCTGGCAGCCCTCTGCTGGGCTCCTCTTCAAGTTCTCTGAACAGGACTCCCGCCACCCTCCCA  
 CCCTCTGAAAGCTGTTTCTATTGCTGTGGCTGATGAAGGAGAGTCTGAGTCAGAGGATGATGACCTGAAA  
 CCTCGAGGCCACCGGCATGAAGAACCTCGGAACTCCTGCTACATGAACGCCGCCCTGCAGGCCCTGT  
 CCAATTGCCCGCGCTGACTCAGTTCTTCTGGAGTGTGGCGCCCTGGTGCACACAGATAAGAAGCCAGC  
 CCTGTGAAGAGTACCAGAAGCTGGTCTCTGAGGTCTGGCATAAGAAACGGCCAAGCTACGTGGTCCCC  
 ACCAGTCTGTCTCATGGGATCAAGTTGGTCAACCAATGTTCCGAGGCTATGCCAGCAGGACACCCAAG  
 AGTTCTTCGCTGCCTGATGGACAGCTGCACGAGGAGCTCAAGGAGCCGGTGGTGGCCACGGTGGCGCT  
 GACGGAGGCTCGGGACTCAGATTCGAGTGACACGGATGAGAAACGGGAGGGTACCGGAGCCATCAGAA  
 GATGAGTTCTTGTCTGTGACTCGAGCAGTGACCGGGGTGAGGGTACCGGCAGGGGCGTGGCGGGGCA  
 GCTCGCAGGCCGAGACGGAGCTGCTGATCCCAGATGAGGCGGGCCGAGCCATCTCTGAGAAGGAGCGGAT  
 GAAGGACCGCAAGTTCTCCTGGGGCCAGCAGCGTACAACTCGGAGCAAGTGACGAGGACGCTGATGTG  
 GACACTGCCATGGCTGCCCTTGACCAGCCCGGAGGCCAGCCCCGTACCACGGTCTCCAGCCCCT  
 GCCGACGCCAGAGCCGACAATGATGCTCACCTACGCAGTCTCTCGCCCTGCAGCCCCGTCACCA  
 CCACGAGGGCCATGCCAAGCTGTCTAGCAGCCCCCTCGTGCAAGCCCGTGAGGATGGCACCCGTGCTAC  
 GTGCTCAAGAAAGCCAGGTATTGAGTGTGGCAGCCGAGGCGAAGGAGCAGCGCTACCGCAGCGTCA  
 TCTCAGACATCTTTGACGGCTCCATTCTCAGCCTCGTGCAGTGTCTCACCTGTGACCGGGTATCCACCAC  
 AGTGAAACGTTCCAGGACTTACTACTGCCATTCTGAAAGGAGGACCTGGCCAAGCTCCATTAGCC  
 ATCTACCAGAATGTGCCGGCCAAGCCAGGCGCCTGTGGGACAGCTATGCCGCCAGGGCTGGCTGGCT  
 TCATTGTGGAGTACATCCGACGGTTTGTGGTATCCTGTACCCCGAGTGGTTTTGGGGCCTGTCGTAC  
 CCTGGAAGACTGCCTTGTGCCTTCTTTGCCGCTGATGAGTTAAAGGGTGACAACATGTACAGCTGTGAG  
 CGGTGTAAGAAGCTGCGGAACGGAGTGAAGTACTGCAAAGTCTGCGGTTGCCCGAGATCCTGTGCATTC  
 ACCTAAAGCGCTTTCGGCACGAGGTGATGTAATCAAGATCAACAGCCACGTCTCTCCCCCTCGA  
 GGGGCTCGACCTGCGCCCCCTTCTTCCAAAGGAGTGCACATCCCAGATCACCCACTACGACCTCCTCTCG  
 GTCATCTGCCACCACGGCAGGCAGGACAGTGGGCACTACATCGCCTACTGCCAGAACGTGATCAATGGGC  
 AGTGGTACGAGTTTGTGACCACTACGTACAGAAAGTCCACGAGACGGTGGTGCAGAACGCCGAGGGCTA  
 CGTACTCTTACAGGAAGAGCAGCAGGAGGCCATGCGGGAGCGACAGCAGGTGGTGTCCCTGGCCGCC  
 ATGCGGGAGCCCAGCCTGCTGCGGTTCTACGTGTCCCGGAGTGGCTCAACAAGTTCAACACCTTCGCGG  
 AGCCAGGCCCATCACCACAGACCTTCTCTGCTCCCACGGAGGCATCCCGCCCCACAATACCACTA  
 CATCGACGACCTGGTGGTATCCTGCCCCAGAACGCTGGGAGCACCTGTACAACAGATTTCGGGGTGGC  
 CCCGCCGTGAACCACCTGTACGTGTCTCCATCTGCCAGGTGGAGATCGAGGCACTGGCCAAGCGCAGGA  
 GGATCGAGATCGACACCTTCATCAAGTTGAACAAGGCCTTCCAGGCCGAGGAGTCCCGGGCGTATCTA  
 CTGCATCAGCATGCAGTGGTTCGGGAGTGGGAGGCGTTCGTAAGGGGAAGGACAACGAGCCCCCGGG  
 CCCATTGACAACAGCAGGATTGCACAGGTCAAAGGAAGCGCCATGTCCAGCTGAAGCAGGGAGCTGACT  
 ACGGGCAGATTCGGAGGAGACCTGGACCTACCTGAACAGCCTGTATGGAGGTGGCCCCGAGATTGCCAT  
 CCGCCAGAGTGTGGCGCAGCCGCTGGGCCAGAGAACCTGCACGGGGAGCAGAAGATCGAAGCCGAGACG  
 CGGGCCGTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC208051 protein sequence  
 Red=Cloning site Green=Tags(s)

MGDSRDLCPHLDSIGEVTKEDLLLKSKGTCQSCGVTGPNLWACLQVACPYVGCGESFADHSTIHAQAKKH  
 NLTVNL TTFRLWCYACEKEVFLEQRLAAPLLGSSSKFSEQDSPPPSHPLKAVPIA VADEGESESEDDDLK  
 PRGLTG MKNLGNSCYMNAALQALSNCPPLTQFFLECGGLVRTDKK PALCKSYQKLVSEVWHKKRPSYVVP  
 TSLSHG IKL VNP MFRGYAQQDTQEFLRCLMDQLHEELKEP VVATVAL TEARDSDSSDTDEKREGDRSPSE  
 DEF LSCDSSSDRGE GDGQGRGGSSQAETELLIPDEAGRAI SEKERMKDRKF SWGQQR TNSEQVDEADAV  
 DTAMAALDQPAEAQPPSPRSSPCRTPEPDNDAHLRSSRPCSPVHHHEGHAKLSSSPPRASPVRMAPSY  
 VLKKAQVL SAGSRRRKEQRYRSV I SDIFDGSILSLVQCL TCDRVSTTVETFQDLSLPIPGKEDLAKLHSA  
 IYQNP PAKPGACGDSYAAQGWLAFIVEYIRRFVVSCTPSWFGPVV TLEDCLAFFAADELKGDNMYSCE  
 RCKKL R NGV KYCKVLR LPEILCIHLKRFRHEVMYSFKINSHVSFPLEGLDLRPF LAKECTSQITTYD LLS  
 VICHHG TAGSGHYIAYCQNVINGQWYEFDDQYVTEVHETVVQNAEGYVLFYRKSSEEAMRERQV VSLAA  
 MREPSLLRFYVSREWLNKFNTFAEPGPITNQTF L CSHGGIPPHKYHYIDDLV VILPQNVWEHLNRF GGG  
 PAVNHL YVCSICQVEIEALAKRRRIEIDTFIKLNKAFQAEESPGVIYCISMQWFREWEAFVKGKDNEPPG  
 PIDNSRIAQVKSGSHVQLKQGADY GQISEETWY LNSLYGGGPEIAIRQSV AQPLGPENLHGEQKIEAET  
 RAV

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6202\\_d05.zip](https://cdn.origene.com/chromatograms/mk6202_d05.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\_006676

**ORF Size:** 2739 bp

**OTI Disclaimer:** 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 [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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\\_006676.5](#)

**RefSeq Size:** 4538 bp

**RefSeq ORF:** 2745 bp

**Locus ID:** 10868

**UniProt ID:** [Q9Y2K6](#)

**Cytogenetics:** 9q34.11

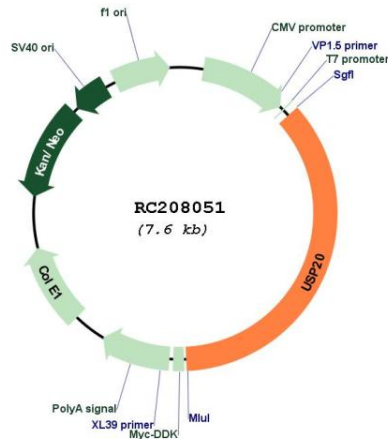
**Domains:** UCH, zf-UBP, DUSP

**Protein Families:** Druggable Genome, Protease

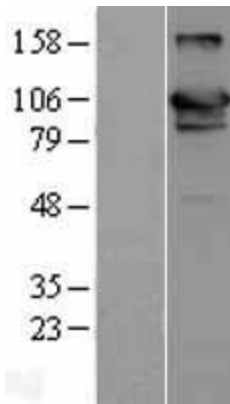
**MW:** 101.9 kDa

**Gene Summary:**

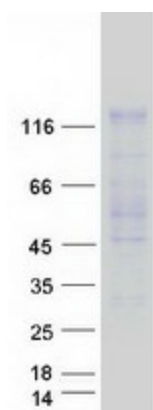
This gene encodes a ubiquitin specific processing protease that was first identified as a substrate of the VHL (von Hippel-Lindau disease) protein E3 ubiquitin ligase complex. In addition to being ubiquitinated by the VHL-E3 ligase complex, this enzyme deubiquitinates hypoxia-inducible factor (HIF)-1 alpha and thereby causes increased expression of HIF-1 alpha targeted genes which play a role in angiogenesis, glucose metabolism, cell proliferation and metastasis. The enzyme encoded by this gene also regulates G-protein coupled receptor signaling by mediating the deubiquitination of beta-2 adrenergic receptor (ADRB2). This enzyme is a ubiquitously expressed thiolester hydrolase. Alternative splicing results in multiple transcript variants encoding the same protein. [provided by RefSeq, Jan 2013]

**Product images:**


Circular map for RC208051



Western blot validation of overexpression lysate (Cat# [LY402002]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC208051 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified USP20 protein (Cat# [TP308051]). The protein was produced from HEK293T cells transfected with USP20 cDNA clone (Cat# RC208051) using MegaTran 2.0 (Cat# [TT210002]).