

## Product datasheet for MR226803

### Usp7 (NM\_001003918) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Usp7 (NM\_001003918) Mouse Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** Usp7  
**Synonyms:** 2210010O09Rik; AA409944; AA617399; AU019296; AW548146; C80752; Hausp  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >MR226803 representing NM\_001003918  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGAACCAACAGCAGCAGCAGCAGCAGCAGCAGAAAGCGGGCGAGCAGCAGCTGAGCGAGCCGAGGACA  
 TGGAGATGGAAGCTGGAGATACAGATGACCCACCAAGAATTACTCAGAACCCTGTCATCAATGGGAATGT  
 AACCTGAGTGATGGGCACAGCAACGCAGAAGAGGACATGGAGGATGACACCAGTTGGCGCTCCGAGGCA  
 ACCTTTCAGTTCAGTGTGAGCGCTTCAGCAGACTGAGTGAGTCGGTCCCTAGCCCTCCGTGTTTGTGC  
 GAAATCTGCCATGGAAGATTATGGTGATGCCACGCTTTTATCCAGACAGACCACCAAAAAAGCGTAGG  
 ATTCTTTCAGTGCAATGCTGAATCTGACTCCACGTCGTGGTCTGCCACGCACAAGCAGTGCTGAAG  
 ATAATAAATTACAGGGATGATGACAAATCATTCAGCCGGCGAATCAGCCACTTGTCTTCCACAAGGAAA  
 ACGACTGGGGATTCTCTAATTTTCATGGCCTGGAGTGAAGTGACTGATCCTGAGAAAGGATTCATCGATGA  
 TGACAAAGTCACCTTTGAAGTTTTGTACAGGCAGATGCTCCCATGGAGTTGCGTGGGACTCAAAGAAG  
 CATACTGGCTATGTGGCTTAAAGAATCAGGGAGCAACGTGTTACATGAATAGCTTGCTGCAGACCTTGT  
 TTTTCACAAATCAGTTACGAAAGGCTGTGTACATGATGCCAACAGAGGGCGATGATTCATCTAAAAGCGT  
 CCCTTTAGCATTACAAAGAGTGTCTATGAATTACAGCACAGCGATAAGCCCGTAGGAACAAAAAGCTC  
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 TGCTTGATAATGTGGAAAATAAGATGAAAGGCACCTGTGTAGAGGGCACCATTCCAAAGTTATCCGAGG  
 CAAAATGGTGTCTATATTCAGTGCAAAGAGCTAGACTACCGTTCTGATAGGAGAGAAGATTATTATGAT  
 ATCCAGCTAAGTATAAAAGGAAAGAAAAACATATTTGAATCATTTGTGGATTATGTGGCAGTAGAACAA  
 TAGACGGTGACAATAAATACGATGCTGGGGAGCATGGCCTGCAGGAGGCAGAGAAAGGTGTGAAATTCCT  
 AACATTGCCCCAGTGTTACACCTGCAACTTATGAGGTTTCATGTATGACCCTCAGACGGACCAAAACATC  
 AAGATCAATGACAGGTTTGTGTTCCAGAACAGTTACCACTTGTGAATTTTTGCAAAAAACAGACCCTA  
 AGGACCCTGCAAATTATTTCTCCATGCAGTCTTGTTTCAGAGTGGAGATAATCATGGTGGACATTACGT  
 GTTTACCTAAACCCAAAGGGATGGCAAATGGTGAAGTTCGATGATGACGTGGTATCCAGGTGACT



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AAAGAAGAAGCCATTGAGCACAATTATGGGGGTCATGATGATGATCTGTCTGTTTCGACACTGCACAAATG  
 CCTATATGTTAGTGTACATCAGGAATCAAAGCTAAGTGAAGTGTACAAGCTGTACCCGACCATGATAT  
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 GAAGCCCATCTCTACATGCAAGTGCAGATAGTTGCAGAGGACCAGTTTTGTGGCCACCAAGGAAATGACA  
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 TTCAAGTCTCAAGTTATAGGGACGGCCCGGTAATCCTCTTAGGCATAATTACGAAGGACTTTAAGAG  
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 ACAAAGCATCAGGGAGACTTAGGCTGCTAGAAATTTGTGAGCTACAAAATTTGGTGTGCATCAAGAAGA  
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 CCTGCTGGACATCCAGGAGAAGGAGTTTGAAGAATTTAAATTTGCAATTGTCATGATGGCCGGCACCAG  
 TACATCAATGAAGATGAGTATGAAGTAAATTTGAAGGACTTTGAGCCACACCTGTTAATCATGTCTCATC  
 CTCGGCCTTGGCTAGGGCTTGACCACTTCAACAAAGCCCCAAAGAGGAGTCGCTACACTTACCTAGAAAA  
 GGCAATTAATAATCCACAAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR226803 representing NM\_001003918  
 Red=Cloning site Green=Tags(s)

MNHQQQQQQKAGEQQLSEPEDMEMEAGDTDDPPRITQNPVINGNVTLSDGHSNAEEDMEDDTSWRSEA  
 TFQFTVERFSRLSESVLSPPCFVRNLPWKIMVMPRFYPDRPHQKSVGFFLQCNAESDSTSWSCHAQAVLK  
 IINRDDDKSFSRRISHLFFHKENDWGF SNFMAWSEVTDPEKGF IDDDKVTFEVFQADAPHGVAVDWSKK  
 HTGYVGLKNQGATCYMNSLLQTLFFTNQLRKAVYMPTEGDDSSKSVPLALQRFVYELQHSKPKVGTGKLL  
 TKSFGWETLDSFMQHDVQELCRVLLDNVENKMKGTCEVEGIPKLFGRKMVSYIQCKDVDYRSDRREDDYYD  
 IQLSIKGGKKNIFESEFVDYVAVEQLDGDNKYDAGEHGLQEAKEGVKFLTLPPVHLQLMRMYDPQTDQNI  
 KINDRFEFPEQLPLDEFQKTDPKDPANYILHAVLVHSGDNHGGHYVYVYLNPKGDGKWKCFDDDDVSRCT  
 KEEAIEHNYGGHDDLSVRHCTNAYMLVYIRESKLSEVLQAVTDHDIPOQLVERLQEEKRIEAQKRKERQ  
 EAHLVMQVQIVAEDQFCGHQGNMYDEEKVRYTVFKVLKNSSLAEFVQSLSQTMGFPQDQIRLWPMQARS  
 NGTKRPAMDNEADGNKTMIELSDNENPWTIFLETVDPELAASGATLPKFDKDHVMLFLKMYDPKTRSL  
 NYCIGHIYTPISCKIRDLLPVMCDRAGFIQDTSILYEEVKPNLTERIQDYDVSLLKALDELMDGDIIVFQ  
 KDDPENDNSELPTAKEYFRDLYHRVDVIFCDKTI PNDPGFVVTL SNRMNYFQVAKTVAQLNTPMLLQF  
 FKSQGYRDGPNPLRHNYEGLRDLQFFKPRQPKLYYQQLKMKITDFENRRSFKCIWLNLSQFREEEIT  
 LYPDKHGCVRDLLLEECKAVELGDKASGRLLLEIVSYKII GVHQEDELLECLSPATSRTFRIEEIPLDQ  
 VDIKENEMLITVAHFHKEVFGTFGIPFLLRHQGEHFREVMKRIQSLLDIQEKEFEKFAIVMMGRHQ  
 YINEDEYEVNLDKDFEPQPGNMSPRPWGLDHFNKAPKRSRYTYLEKAIKIHN

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mm9037\\_d01.zip](https://cdn.origene.com/chromatograms/mm9037_d01.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_001003918

ORF Size: 3309 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\\_001003918.2](#), [NP\\_001003918.2](#)

**RefSeq Size:** 5427 bp

**RefSeq ORF:** 3312 bp

**Locus ID:** 252870

**UniProt ID:** [Q6A4J8](#)

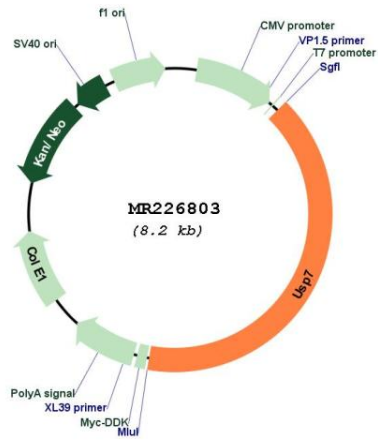
**Cytogenetics:** 16 A1

**MW:** 128.9 kDa

**Gene Summary:**

Hydrolase that deubiquitinates target proteins such as FOXO4, p53/TP53, MDM2, ERCC6, DNMT1, UHRF1, PTEN, KMT2E and DAXX (PubMed:21268065, PubMed:14719112, PubMed:19946331). Together with DAXX, prevents MDM2 self-ubiquitination and enhances the E3 ligase activity of MDM2 towards p53/TP53, thereby promoting p53/TP53 ubiquitination and proteasomal degradation. Deubiquitinates p53/TP53, preventing degradation of p53/TP53, and enhances p53/TP53-dependent transcription regulation, cell growth repression and apoptosis. Deubiquitinates p53/TP53 and MDM2 and strongly stabilizes p53/TP53 even in the presence of excess MDM2, and also induces p53/TP53-dependent cell growth repression and apoptosis. Deubiquitination of FOXO4 in presence of hydrogen peroxide is not dependent on p53/TP53 and inhibits FOXO4-induced transcriptional activity. In association with DAXX, is involved in the deubiquitination and translocation of PTEN from the nucleus to the cytoplasm, both processes that are counteracted by PML. Deubiquitinates KMT2E preventing KMT2E proteasomal-mediated degradation (By similarity). Involved in cell proliferation during early embryonic development. Involved in transcription-coupled nucleotide excision repair (TC-NER) in response to UV damage: recruited to DNA damage sites following interaction with KIAA1530/UVSSA and promotes deubiquitination of ERCC6, preventing UV-induced degradation of ERCC6 (By similarity). Involved in maintenance of DNA methylation via its interaction with UHRF1 and DNMT1: acts by mediating deubiquitination of UHRF1 and DNMT1, preventing their degradation and promoting DNA methylation by DNMT1. Deubiquitinates alkylation repair enzyme ALKBH3. OTUD4 recruits USP7 and USP9X to stabilize ALKBH3, thereby promoting the repair of alkylated DNA lesions (By similarity). Acts as a chromatin regulator via its association with the Polycomb group (PcG) multiprotein PRC1-like complex; may act by deubiquitinating components of the PRC1-like complex (By similarity). Able to mediate deubiquitination of histone H2B; it is however unsure whether this activity takes place in vivo (PubMed:27863226). Exhibits a preference towards 'Lys-48'-linked ubiquitin chains. Increases regulatory T-cells (Treg) suppressive capacity by deubiquitinating and stabilizing the transcription factor FOXP3 which is crucial for Treg cell function (PubMed:23973222). Plays a role in the maintenance of the circadian clock periodicity via deubiquitination and stabilization of the CRY1 and CRY2 proteins (PubMed:27123980). Deubiquitinates REST, thereby stabilizing REST and promoting the maintenance of neural progenitor cells (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226803