

## Product datasheet for **MR210758**

### Vcp (BC043053) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Vcp (BC043053) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Vcp
Synonyms:	p97, CDC48, 3110001E05
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR210758 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCTCTGAGCCGATTCAAAGGTGATGATTTATCAACAGCCATTCTCAAACAGAAGAACCACCCA  
 ATCGGTTAATTGTTGATGAAGCCATCAATGAAGATAACAGCGTGGTGTCTTGTCCAGCCCAAGATGGA  
 TGAAGTGCAGTTGTTCCGAGGTGACACGGTGTGCTAAAAGGAAAAGAAAAGACGGGAAGCTGTATGCATT  
 GTTCTTTCTGATGACACGTGTTCTGATGAGAAGATTGCAATGAATAGAGTTGTTCCGGAATAACCTCCGAG  
 TTCGCCTAGGAGATGTCATCAGCATCCAGCCATGCCCTGATGTAAGTATGGCAAACGTATCCACGTTCT  
 ACCCATCGATGACACAGTGAAGGCATCACTGGCAATCTCTTTGAGGTATACCTAAGCCGTA CTCTCTG  
 GAAGCTTATCGGCCATCCGTAAGGAGATATTTTCTGTCCGGGTGGGATGCGTGTGTGGAGTTCA  
 AAGTTGTAGAGACAGATCCAGCCCTTACTGTATTGTTGCTCCAGACACAGTGTCCACTGTGAGGGGA  
 GCCAATCAAGCGAGAGGATGAGGAGGAATCCTTGAATGAAGTAGGCTATGATGACATCGGTGTTGCAGG  
 AAGCAGCTAGCTCAGATAAAGGAGATGGTGGAGCTGCCACTGAGACATCTGCGCTCTTAAAGCGATTG  
 GTGTAAGCCTCCTCGGGGAATCTGTTGTATGGCCTCCTGGGACAGGGAAGACCTGATTGCTCGAGC  
 TGTGGCAAATGAACTGGAGCCTTCTTCTTCTGATCAATGGTCTGAAATCATGAGCAAATGGCTGGT  
 GAGTCTGAGAGCAACCTTCGTAAGCCTTTGAGGAAGCTGAAAAGAAATGCTCCTGCTATCATCTTCATCG  
 ATGAGCTTGATGCCATTGCACCCAAAAGAGAGAAAACCTCATGGGGAAGTGGAGCGTCGCATCGTGTCTCA  
 GTTGTGGACCCTCATGGATGGCCTAAAGCAGAGAGCACATGTGATAGTTATGGCAGCAACCAATAGACCC  
 AACAGCATTGACCAGCCCTACGGCGATTTGGTCGCTTTGACAGAGAGGTAGATATTGGAATACCTGATG  
 CTACAGGACGTTTGAGATTCTTCAGATCCATACCAAGAACATGAACTGGCAGATGATGTGGACTTGG  
 ACAGGTAGCCAATGAGACTCATGGTCATGTTGGTGTGATTTGGCAGCCCTATGTTTCAGAGGCTGCTCTG  
 CAGGCCATCCGGAAAAAATGGACCTCATTGACCTAGAAGATGAGACCATTGATGCTGAGGTCATGAATT  
 CCCTGGCAGTTACTATGGATGACTTCCGGTGGGCTTTGAGTCAAAGCAACCCATCAGCACTTCGGGAAAC  
 TGTGGTAGAGGTGCCACAAGTAACCTGGGAAGATATTGGAGGCCTGGAGGATGTCAAACGTGAGCTTCAG  
 GAGTTGGTTCAGTATCCTGTGGAACATCCAGACAAATTCCTCAAATTTGGCATGACTCCCTCAAAGGCG  
 TTCTTTTCTATGGACCTCCTGGCTGTGGGAAAACCTTACTGGCTAAAGCCATTGCTAATGAATGCCAGGC  
 CAACTTCATCTCCATCAAGGGTCTGAGCTGCTTACCATGTGGTTTGGGGAATCTGAGGCCAATGTCCGG  
 GAAATTTTGGACAAGGCACGGCAAGCTGCCCCCTGTGTACTCTTCTTTGATGAGTTAGATTCAATTGCCA  
 AGGCTCGAGGTGGTAATATTGGAGATGGTGGTGGAGCTGCTGACCGAGTCATCAATCAGATCCTGACAGA  
 AATGGATGGCATGTCTACAAAAAGAATGTGTTTATCATTGGAGCTACCAACAGGCCTGACATCATTGAT  
 CCTGCTATCCTAAGACCTGGCCGTCTAGATCAGCTCATTATATCCCCTTCTGATGAGAAGTCCCGTG  
 TTGCCATCCTAAAAGCCAATCTGCGAAAGTCCCGAGTTGCCAAGGATGTGGATTGGAGTTCTGGCTAA  
 GATGACTAATGGCTTTTCTGGAGCTGATTTGACAGAAATTTGCCAACGGGCTTGTAACTGGCCATTCTGT  
 GAATCTATTGAGAGTGAGATTAGGCGAGAACGAGAGAGGCAGACAAATCCATCGGCTATGGAGGTAGAAG  
 AGGACGATCCAGTGCCTGAGATCCGCAGAGATCACTTTGAGGAAGCCATGCGTTTTGCCCGACGTTCTGT  
 CAGCGATAATGACATTCGGAAGTATGAAATGTTTCGCCAGACACTGCAGCAGAGTCGAGGTTTTGGCAGC  
 TTCAGATTCCTTCAGGGAACCGGGTGGAGCTGGTCCCAGCCAGGCAGTGGAGGTGCCACAGGTGGCA  
 GTGTGTACACAGAAGACAATGACGATGACCTGTATGGC

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

## Protein Sequence:

&gt;MR210758 protein sequence

Red=Cloning site Green=Tags(s)

MASGADSKGDDLSTAILKQKNRPNRLIVDEAINEDNSVSVLSQPKMDELQLFRGDTVLLKGGKRREAVCI  
VLSDDTCSDEKIRMNRVVRNLRVRLGDVISIQPCPDVKYGKRIHVLPIDDTVEGITGNLFEVYLKPYFL  
EAYRPIRKGDIFLVRGGMRAVEFKVETDPSPYCIVAPDTVIHCEGEPIKREDEEESLNEVGYDDIGGCR  
KQLAQIKEMVELPLRHPALFKAIGVKPPRGILLYGPPGTGKTLIARAVANETGAFFFLINGPEIMSKLAG  
ESESNLKAFEEAEKNAPAIIFIDELDAIAPKREKTHGEVERRIVSLLTMDGLKQRAHVIVMAATNRP  
NSIDPALRRFGRFDREVDIGIPDATGRLEILQIHTKNMKLADDVDLEQVANETHGHVGDLAALCSEAAL  
QAIRKKMDLIDLEDETIDAEVMNSLAVTMDDFRWALSQSNPSALRETVVEVPQVTWEDIGGLEDVKRELQ  
ELVQYPVEHPDKFLKFGMTPSKGVLFYGGPGCGKTLAKAIANECQANFISIKGPELLTMWFGESEANVR  
EIFDKARQAAPCVLFFDELDSIAKARGGNI GDGGGAADRVINQILTEMDGMSTKKNVFIIGATNRPDIID  
PAILRPGRLDQLIYIPLPDEKSRVAILKANLRKSPVAKVDVLEFLAKMTNGFSGADLTEICQRACKLAIR  
ESIESEIRRRERERQTNPSAMEVEEDDPVPEIRRDHFEEAMRFARRSVSDNDIRKYEMFAQTLQQSRGFGS  
FRFPSTGNQGGAGPSQGGGGTGGSVYTEDNDDDLYG

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

## Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: BC043053

ORF Size: 2418 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:** [BC043053.1](#)

**RefSeq Size:** 2898 bp

**RefSeq ORF:** 2420 bp

**Locus ID:** 269523

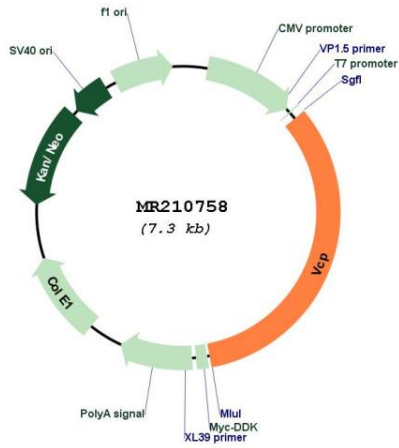
**Cytogenetics:** 4 22.95 cM

**MW:** 89.3 kDa

**Gene Summary:**

Necessary for the fragmentation of Golgi stacks during mitosis and for their reassembly after mitosis. Involved in the formation of the transitional endoplasmic reticulum (tER). The transfer of membranes from the endoplasmic reticulum to the Golgi apparatus occurs via 50-70 nm transition vesicles which derive from part-rough, part-smooth transitional elements of the endoplasmic reticulum (tER). Vesicle budding from the tER is an ATP-dependent process. The ternary complex containing UFD1, VCP and NPLOC4 binds ubiquitinated proteins and is necessary for the export of misfolded proteins from the ER to the cytoplasm, where they are degraded by the proteasome. The NPLOC4-UFD1-VCP complex regulates spindle disassembly at the end of mitosis and is necessary for the formation of a closed nuclear envelope. Regulates E3 ubiquitin-protein ligase activity of RNF19A. Component of the VCP/p97-AMFR/gp78 complex that participates in the final step of the sterol-mediated ubiquitination and endoplasmic reticulum-associated degradation (ERAD) of HMGCR. Involved in endoplasmic reticulum stress-induced pre-emptive quality control, a mechanism that selectively attenuates the translocation of newly synthesized proteins into the endoplasmic reticulum and reroutes them to the cytosol for proteasomal degradation. Plays a role in the regulation of stress granules (SGs) clearance process upon arsenite-induced response (By similarity). Also involved in DNA damage response: recruited to double-strand breaks (DSBs) sites in a RNF8- and RNF168-dependent manner and promotes the recruitment of TP53BP1 at DNA damage sites. Recruited to stalled replication forks by SPRTN: may act by mediating extraction of DNA polymerase eta (POLH) to prevent excessive translesion DNA synthesis and limit the incidence of mutations induced by DNA damage. Required for cytoplasmic retrotranslocation of stressed/damaged mitochondrial outer-membrane proteins and their subsequent proteasomal degradation. Essential for the maturation of ubiquitin-containing autophagosomes and the clearance of ubiquitinated protein by autophagy. Acts as a negative regulator of type I interferon production by interacting with DDX58/RIG-I: interaction takes place when DDX58/RIG-I is ubiquitinated via 'Lys-63'-linked ubiquitin on its CARD domains, leading to recruit RNF125 and promote ubiquitination and degradation of DDX58/RIG-I. May play a role in the ubiquitin-dependent sorting of membrane proteins to lysosomes where they undergo degradation. May more particularly play a role in caveolins sorting in cells. By controlling the steady-state expression of the IGF1R receptor, indirectly regulates the insulin-like growth factor receptor signaling pathway.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR210758