

Product datasheet for **SC112170**

E3 ubiquitin protein ligase MUL1 (MUL1) (NM_024544) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	E3 ubiquitin protein ligase MUL1 (MUL1) (NM_024544) Human Untagged Clone
Tag:	Tag Free
Symbol:	E3 ubiquitin protein ligase MUL1
Synonyms:	C1orf166; GIDE; MAPL; MULAN; RNF218
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>NCBI ORF sequence for NM_024544, the custom clone sequence may differ by one or more nucleotides

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ATGGAGAGCGGAGGGCGGCCCTCGCTGTGCCAGTTCATCCTCCTGGGCACCACCTCTGTGGTCACCGCCG
CCCTGTA CTCCGTGTACCGGCAGAAAGCCCGGGTCTCCAAGAGCTCAAGGGAGCTAAAAAGTTTCATTT
GGGTGAAGATTTAAAGAGTATTCTTTCAGAAGCTCCAGGAAAAATGCGTGCCTTATGCTGTTATAGAAGGA
GCTGTGCGGTCTGTTAAAGAAACGCTTAACAGCCAGTTTGTGGAAAACGCAAGGGGTAATTTCAGCGGC
TGACACTTCAGGAGCACAAGATGGTGTGGAATCGAACCACCCACCTTTGGAATGATTGCTCAAAGATCAT
TCATCAGAGGACCAACACAGTGCCCTTTGACCTGGTCCCCACGAGGATGGCGTGGATGTGGCTGTGCGA
GTGCTGAAGCCCCTGGACTCAGTGGATCTGGGTCTAGAGACTGTGTATGAGAAGTCCACCCCTCGATTC
AGTCCTTCACCGATGTCACTCGGCCACTACATCAGCGGTGAGCGGCCCAAAGGCATCCAAGAGACCGAGGA
GATGCTGAAGGTGGGGGCCACCCCTCACAGGGGTTGGCGAACTGGTCTGGACAACAACCTCTGTCCGCTG
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AGTCGAGCGTCAGGCTCTGGAAGGTGCTGGCGCTGGTTTTGGCTTTGCCACATGTGCCACCCTCTTCTT
CATTCTCCGGAAGCAGTATCTGCAGCGGCAGGAGCGCCTGCGCCTCAAGCAGATGCAGGAGGAGTCCAG
GAGCATGAGGCCAGCTGCTGAGCCGAGCCAAGCCTGAGGACAGGGAGAGTCTGAAGAGCGCCTGTGTAG
TGTGTCTGAGCAGCTTCAAGTCTGCGTCTTTCTGGAGTGTGGGCACGTTTGTTCCTGCACCGAGTGCTA
CGCGCCTTGCCAGAGCCCAAGAAGTGCCCTATCTGCAGACAGGGGATCACCCGGGTGATACCCCTGTAC
AACAGCTAA
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5' Read Nucleotide Sequence:

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>OriGene 5' read for NM_024544 unedited
NNGGTTCCGAATTGTATACGACTCACTATAGGCGGCCGGAATTCGCACGAGGCCGGGG
GGTGCGGTCTGGTCGGAAGGAGGTGGAGAGTCGGGGGTACCAGGCCTATCCTTGGCGC
CACAGTCGGCCACCGGGCTCGCCGCCGTATGGAGAGCGGAGGGCGGCCCTCGCTGTGC
CAGTTCATCCTCCTGGGCACCACCTCTGTGGTCACCGCCGCCCTGACTCCGTGTACCGG
CAGAAGGCCCGGGTCTCCAAGAGCTCAAGGGAGCTAAAAAGTTCATTTGGGTGAAGT
TTAAAGAGTATTCTTTCAGAAGCTCCAGGAAAATGCGTGCCTTATGCTGTTATAGAAGGA
GCTGTGCGGTCTGTTAAAGAAACGCTTAACAGCCAGTTTGTGAAAACGCAAGGGGTA
ATTCAGCGGTGACACTTCAGGAGCACAAGATGGTGTGGAATCGAACCACCCACCTTTGG
AATGATTGCTCAAAGATCATTATCAGAGGACCAACACAGTGCCTTTGACCTGGTGCC
CACGAGGATGGCGTGGATGTGGCTGTGCGAGTGTGAAGCCCCTGGACTCAGTGGATCTG
GGTCTAGAGACTGTGTATGAGAAGTTCACCCCTCGATTAGTCCCTTACCGATGTCATC
GGCCACTACATCAGCGGTGAGCGCCCNAGGCATCCAAGAGACCGAGGAGATGCTGAAGG
TGGGGGCCACCCTCACAGGGTTGGCGAACTGGTCTGNNACACACTCTGTCCGCCTGCA
GCCGCCAAACAGGCATGCACTACTATCTAAAGCAGCCAGACTTCGACAGCCTGTGCGAG
AAGCAGGAGTCGAGCGTCACTCTGGAAGGTGCNNTGCGCTGTTTTGGCTTGCACATGT
GCACCCTCTTCTTATTCTCGAAGCAGT
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3' Read Nucleotide Sequence:

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>OriGene 3' read for NM_024544 unedited
GTACCGCGGCACGCAATCTAGTGTGCGAGTTTTTTTTTTTTTTTTTTTTTTGGTTGCAACATGTT
TAATTTCTGCTGTTACACTGGACTGCATCATACTAGTGTGCGCCCTGAGGGCACCC
CTTCTCGCTGCACAAAGGAGGACGAGAGATGAACATTCAGAGGCAGAAAAGGGCAATA
AAAAAAGAGCTGTGTATGTGACCTCCAATACTCAGAGGTGGGGGAAAACAGCCCATCT
GTCTTGCACTAAAAGGCTCACCAGGGCAGGTGAGGGGCAATGGTAATACTGGGAGGGG
GTAACACAAGGAGAAGCGACATGAGTACACCAAGATGTCAAAGCTGCGACGGGCTGGATG
AAGGAGCCCAAGAGGGCATATGCTCAGGGTGCCAGCCGGCTGCTTTTCTTGTGACAGC
CTTGCAAGGAAGCTGTGAGGCCAGGACACTAAGCCAGTGGCATCCACACTGCGTCCTTCA
AGAAGCGAGGCCCTCGCGCTCATTCTCCAGGAGGGAAAACAGGGACCACCCCGAGCTC
TCCAAGTGGCAGGAAGTTAAATCAGGGCCAGTGGCGAATCCAGGAAGCCTGCCTGACCA
ACTGCCCTTAACATGAATCTTTCTTAATCTGGTGCCCGGGTGCAGCGATCTTCTGGGG
AGAATGCGGATGTGCTGACTTACATTTCTTTGTTCTCCTACCCACTGGGCGGCGGCTC
CGGTGGTCAGCCAGGCGAGGACAGGAATAAAAATCGTCTCGTCCACATTGTCAATTTTC
TAATTATCCTCTTTTCTCCATCCGCTTGTAAACAAAATAATAATCCCTGTGCTGCATCTT
TTCTCGGGACCTCCCACCCGCGTGTGTTTGGCCTCGCGCCCAATCTTACATCTCTCC
GTCAGGTTCCCCACATCACCTCTCCCACCCCTCNCNCGTAATACTTCTCTCCCCGCTC
CCTACGCGCCTGCTTACTCCACTGCTCGCTGCCCTTTCCCCGCGTTGTCCTATCTCT
AGCTATTCAGTTCATCAT
```

Restriction Sites:

NotI-NotI

ACCN:

NM_024544

Insert Size:

2500 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 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](#)

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_024544.1](#), [NP_078820.1](#)

RefSeq Size: 2442 bp

RefSeq ORF: 1059 bp

Locus ID: 79594

UniProt ID: [Q969V5](#)

Cytogenetics: 1p36.12

Protein Families: Druggable Genome, Transmembrane

Gene Summary:

Exhibits weak E3 ubiquitin-protein ligase activity (PubMed:18591963, PubMed:19407830, PubMed:22410793). E3 ubiquitin ligases accept ubiquitin from an E2 ubiquitin-conjugating enzyme in the form of a thioester and then directly transfer the ubiquitin to targeted substrates (PubMed:18591963, PubMed:19407830, PubMed:22410793). Can ubiquitinate AKT1 preferentially at 'Lys-284' involving 'Lys-48'-linked polyubiquitination and seems to be involved in regulation of Akt signaling by targeting phosphorylated Akt to proteosomal degradation (PubMed:22410793). Proposed to preferentially act as a SUMO E3 ligase at physiological concentrations (PubMed:19407830). Plays a role in the control of mitochondrial morphology by promoting mitochondrial fragmentation, and influences mitochondrial localization (PubMed:19407830, PubMed:18207745, PubMed:18213395). Likely to promote mitochondrial fission through negatively regulating the mitochondrial fusion proteins MFN1 and MFN2, acting in a pathway that is parallel to the PRKN/PINK1 regulatory pathway (PubMed:24898855). May also be involved in the sumoylation of the membrane fission protein DNM1L (PubMed:18207745, PubMed:19407830). Inhibits cell growth (PubMed:18591963, PubMed:22410793). When overexpressed, activates JNK through MAP3K7/TAK1 and induces caspase-dependent apoptosis (PubMed:23399697). Involved in the modulation of innate immune defense against viruses by inhibiting DDX58-dependent antiviral response (PubMed:23399697). Can mediate DDX58 sumoylation and disrupt its polyubiquitination (PubMed:23399697).[UniProtKB/Swiss-Prot Function]