

## Product datasheet for RC215643

### ULK1 (NM\_003565) Human Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** ULK1 (NM\_003565) Human Tagged ORF Clone  
**Tag:** Myc-DDK  
**Symbol:** ULK1  
**Synonyms:** ATG1; ATG1A; hATG1; UNC51; Unc51.1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**ORF Nucleotide Sequence:** >RC215643 representing NM\_003565  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGAGCCCGGCCGCGGCCACAGAGACCGTGGGCAAGTTCGAGTTCTCCCGCAAGGACCTGATCGGCC  
 ACGGCGCCTTCGCGGTGGTCTTCAAGGGCCGCCACCGCGAGAAGCACGATTTGGAGTTCGCCGTCAGTG  
 CATTAAACAAGAAGAACCTCGCCAAGTCTCAGACGCTGCTGGGGAAGGAAATCAAATCCTGAAGGAAGT  
 AAACATGAAAACATCGTGGCCCTGTACGACTTCCAGGAAATGGCTAATTCTGTCTACCTGGTTATGGAGT  
 ACTGCAACGGTGGGGACCTGGCCGACTACCTGCACGCCATGCGCACGCTGAGCGAGGACACCATCAGGCT  
 TTCTCTGCAGCAGATCGCGGGCGCCATGCGGCTTCTGCACAGCAAAGGCATCATCCACCGCGACCTGAAA  
 CCGCAGAACATCCTGCTGTCCAACCCCGCCGGCCCGCCGCAACCCCAACAGCATCCGCGTCAAGATCG  
 CTGACTTCGGCTTCGCGCGGTACCTCCAGAGCAACATGATGGCGGCCACACTCTGCGGCTCCCCATGTA  
 CATGGCCCCGAGGTCATCATGTCCCAGCACTACGACGGGAAGGCGGACCTGTGGAGCATCGGCACCATC  
 GTCTACCAGTGCCTGACGGGGAAGGCGCCCTTCCAGGCCAGCAGCCCCAGGACCTGCGCCTGTTCTACG  
 AGAAGAACAAGACGTTGGTCCCCACCATCCCCGGGAGACCTCGGCCCGCTGCGGCAGCTGCTCCTGGC  
 CCTACTGCAACGCAACCACAAGGACCGCATGGACTTCGATGAGTTTTTTCATCACCTTTCTCGATGCC  
 AGCCCCTCGGTCAGGAAATCCCCACCCGTCCTGTGCCCTGTACCCAAGCTCGGGTCCGGCAGCAGT  
 CCAGCAGCAGCTCCACCTCCACCTGGCCTCCCCGCCGTCCCTGGGCGAGATGCAGCAGCTGCAGAAGAC  
 CCTGGCCTCCCCGGCTGACACCGCTGGTTCCTGCACAGCTCCCGGACTCTGGTGGCAGCAAGGACTCT  
 TCCTGTGACACAGACGACTTCGTCATGGTCCCCGCGCAGTTTCCAGGTGACCTGGTGGTGAGGCGCCCA  
 GTGCCAAACCCCGCCAGACAGCCTGATGTGCAGTGGGAGCTCACTGGTGGCCTCTGCGGCTTGGAGAG  
 CCACGGCCGACCCCATCTCATCCCCACCTGCAGCAGCTCCCCAGTCCCTCAGGCCGGGCTGGCCCG  
 TTCTCCAGCAGCAGGTGCGGCGCCTCTGTCCCCATCCCAGTCCCCACGCAGGTGCAGAATACCAGCGCA  
 TTGAGCGAAACCTGCAGTACCCACCCAGTTCAAACACCTCGGTCTCTGCCATCCGCAGGTGAGGCGAG  
 CACCAGCCCCCTGGGCTTGAAGGGCCAGCCCCCTGCCCCCTGCCACGCTGAGCATGGAGGCGTCTCT



GCCAGGAAGATGTCTCTGGGTGGAGGCCGGCCCTACACGCCATCTCCTCAAGTTGGAACCATCCCTGAGC  
 GGCCAGGCTGGAGCGGGACGCCCTCCCCACAGGGAGCTGAGATGCGGGGTGGCAGGTCCCCTCGTCCAGG  
 CTCTCTGCACCCGAGCACTCTCCCCGACTTCCGGGCTGGGCTGCCGCCTGCACAGCGCCCCAACCTG  
 TCTGACTTGCACGTCTGTCGCCCAAGCTGCCAAACCCCCACGGACCCCTGGGAGCTGTGTTACGCC  
 CACCACAGGCCAGCCCTCCCCAGCGTCCCACGGCCTGCAGTCTGCCGGAACCTGCCGGGCTCACCCAA  
 GCTGCCCGACTTCTGCAGCGAAACCCCTGCCCCCATCTGGGCTCCCCACCAAGGCTGTGCCCTCC  
 TTTGACTTCCCGAAGACCCAGCTCCCAGAACCTGCTGGCCCTCCTAGCCCGCAGGGCGTGGTATGA  
 CGCCCCCTCGAAACCGGACGCTGCCGACCTCTCGGAGGTGGGACCCCTCCATGGTCAGCCGTTGGGCC  
 TGGCCTGCGGCCAGGCGAGGACCCCAAGGGCCCTTTGGCCGGTCTTTCAGCACCAGCCGCTACTGAC  
 CTGCTCCTTAAGGCGGCTTTGGGACACAAGCCCCGACCCGGGCAGCACGGAGAGCCTGCAGGAGAAGC  
 CCATGGAGATCGCACCTCAGCTGGCTTTGGAGGGAGCCTGCACCAGGAGCCCGTGTGGGGGACCCAG  
 CAGCCCTTCCCGGTGGTCTTACCCTGGGCTCTCCCCGAGCGGGAGCACGCCCCCGAGGCCCCCGC  
 ACCAGGATGTTCTCAGCGGGCCCACTGGCTCTGCCAGCTTCTGCCGCCACCTGGTGCCTGGGCCCT  
 GCAGCGAGGCCAGCCCTGAGCTCCCTGCTCCAGGACAGGCTGCAGCTTTGCCGACCCATTACTGC  
 GAACCTGGAGGGGCTGTGACCTTCGAGGCCCCGACCTCCCTGAGGAGACCCTCATGGAGCAAGAGCAC  
 ACGGAGATCCTGCGTGGCCTGCGTTCACGCTGCTGTTCTGTCAGCACGCTCCTGGAGATCGCAGCCCTGA  
 AGGGCAGCGCCAGTGAGGCGCGGGGGGCCCTGAGTACCAGCTGCAGGAGAGTGTGGTGGCCGACCAGAT  
 CAGCCTGCTGAGCCGAGAATGGGGCTTCGCGGAACAGCTGGTGTGTACCTGAAGGTGGCCGAGCTACTG  
 TCCTCCGGCTGCAAAGTGCCATCGACCAGATCCGGGCCGGAAGCTCTGCCTGTCTGCTCCACTGTGAAGC  
 AGGTGGTGCAGGCTGAATGAGCTGTACAAGGCCAGCGTGGTGTCTGCCAGGGCCTGAGCCTGCGGCT  
 GCAGCGCTTCTTCTGGACAAGCAGCGGCTCCTGGACCGATTACAGCATCACTGCCGAGAGGCTCATC  
 TTCAGCCACGCTGTGCAGATGGTGCAGTCGGCTGCCCTGGACGAGATGTTCCAGCACCGTGGGGCTGCG  
 TCCCACGCTACCAAGGCCCTGCTGCTCCTGGAGGGGCTGCAGCACATGCTCTCGACCCAGGCCGACAT  
 CGAGAACGTCACCAAGTCAAGCTGTGCATTGAGCGGAGACTCTCGGCGTGTGACTGGCATCTGTGCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC215643 representing NM\_003565  
 Red=Cloning site Green=Tags(s)

MEPGRGGTETVGKFEFSRKDLIGHGAFVVFKGRHREKHDLEAVKCIKKNLAKSQTLGKEIKILKEL  
 KHENIVALYDFQEMANSVYLMEYCNNGDLADYLHAMRTLSEDTIRLFLQQIAGAMRLLHSGKIIHRDLK  
 PQNILLSNPAGRANPNSIRVKIADFGFARYLQSNMMAATLCSGPMYMAPEVIMSQHYDGKADLWSIGTI  
 VYQCLTGKAPFQASSPQDLRLFYEKNKTLVPTIPRETSAPLRQLLLALLQRNHKDRMDFDEFHHHPFLDA  
 SPSVRKSPVPVPSYPSSGSGSSSSSSSTSHLASPPSLGEMQQLQKTLASPADTAGFLHSSRDSGGSKDS  
 SCDTDDFVMVPAQFPGDLVAEAPSAKPPPSLMCSGSSLVASAGLESHGRTPSPSPPCSSSPSPSGRAGP  
 FSSSRGASVPIPVPTQVQNYQRIERNLQSPTQFQTPRSSAIRRSGSTSPLGARASPPPAHAHEHGGVL  
 ARKMSLGGRPYTPSPQVGTIPERPWSGTPSPQGAEMRGRSPRPGSSAPEHSRPTSLGCRLLHSAPNL  
 SDLHVVRPKLPKPTDPLGAVFSPQASPPQPSHGLQSCRNLRGSPKLPDFLQRNPLPPIILGSPTKAVPS  
 FDFPKTPSSQNLALLARQGVVMTPPNRRLPDLSEVGPFHGQPLGPGLRPGEDPKGPFGRSFTSRLTD  
 LLLKAAFQGTQAPDPGSTELEKQEPMEIAPSAGFGGSLHPGARAGGTSSSPVVFVTVGSPSPGTPPQGP  
 TRMFSAGPTGSASSARHLVPGPCSEAPAPELPAPGHGCSFADPITANLEGAVTFAEADLPEETLMEQEH  
 TEILRGLRFTLLFVQHVLEIAALKGSASEAAGGPEYQLQESVVDQISLLSREWGFQAEQLVLYLKVALL  
 SSSLQSAIDQIRAGKLCSSVTKQVVRRLNELYKASVVSQGLSLRRLQRFFLDKQRLLDRIHSITAERLI  
 FSHAVQMVQSAALDEMFQHREGCVPRYHKALLLLEGLQHMLSDQADIENVTKCKLCIERRLSALLTGICA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mg2806\\_e09.zip](https://cdn.origene.com/chromatograms/mg2806_e09.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_003565

**ORF Size:** 3150 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.

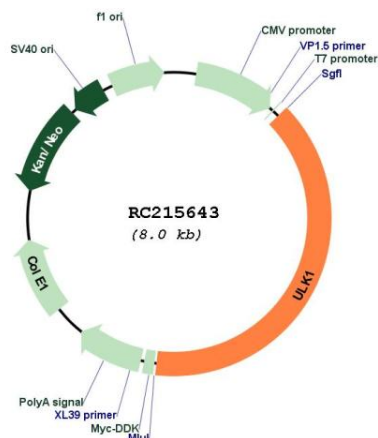
The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in 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.

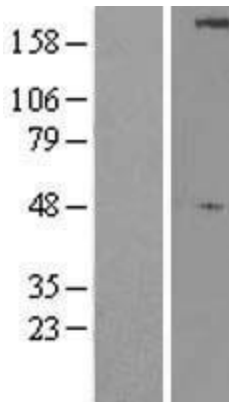
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>Note:</b>	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
<b>RefSeq:</b>	<a href="#">NM_003565.4</a>
<b>RefSeq Size:</b>	5228 bp
<b>RefSeq ORF:</b>	3153 bp
<b>Locus ID:</b>	8408
<b>UniProt ID:</b>	<a href="#">O75385</a>
<b>Cytogenetics:</b>	12q24.33
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	mTOR signaling pathway, Regulation of autophagy
<b>MW:</b>	112.4 kDa
<b>Gene Summary:</b>	<p>Serine/threonine-protein kinase involved in autophagy in response to starvation. Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes. Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR. Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity. May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences. Plays a role early in neuronal differentiation and is required for granule cell axon formation. May also phosphorylate SESN2 and SQSTM1 to regulate autophagy (PubMed:25040165). [UniProtKB/Swiss-Prot Function]</p>

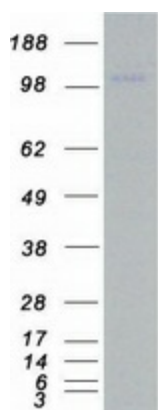
Product images:



Circular map for RC215643



Western blot validation of overexpression lysate (Cat# [LY418585]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215643 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified ULK1 protein (Cat# [TP315643]). The protein was produced from HEK293T cells transfected with ULK1 cDNA clone (Cat# RC215643) using MegaTran 2.0 (Cat# [TT210002]).