

## Product datasheet for **RC204970**

### Lamin A (LMNA) (NM\_170707) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Lamin A (LMNA) (NM_170707) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Lamin A
Synonyms:	CDCD1; CDDC; CMD1A; CMT2B1; EMD2; FPL; FPLD; FPLD2; HGPS; IDC; LDP1; LFP; LGMD1B; LMN1; LMNC; LMNL1; MADA; PRO1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>RC204970 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGCATCGCC**

ATGGAGACCCCGTCCCAGCGCGCGCCACCCCGAGCGGGGCGCAGGCCAGCTCCACTCCGCTGTCGCCCCA  
CCCGCATACCCCGCTGCAGGAGAAGGAGGACCTGCAGGAGCTCAATGATCGCTTGGCGGTCTACATCGA  
CCGTGTGCGCTCGCTGGAACCGGAGAACGCAGGGCTGCGCCTTCGCATCACCGAGTCTGAAGAGGTGGT  
AGCCGCGAGGTGTCCGGCATCAAGGCCGCTACGAGGCCGAGCTCGGGATGCCCGCAAGACCCCTTGACT  
CAGTAGCCAAGGAGCGCGCCCGCTGCAGCTGGAGCTGAGCAAAGTGCCTGAGGAGTTTAAAGAGCTGAA  
AGCGCGCAATACCAAGAAGGAGGGTACCTGATAGCTGCTCAGGCTCGGCTGAAGACCTGGAGGCTCTG  
CTGAACCCAAGGAGGCCGACTGAGCACTGCTCTCAGTGAAGCGCACGCTGGAGGGCGAGCTGCATG  
ATCTCGGGGCCAGGTGGCCAAGCTTGAGGCAGCCCTAGGTGAGGCCAAGAAGCAACTTCAGGATGAGAT  
GCTGCGGGGGTGGATGCTGAGAACAGGCTGCAGACCATGAAGGAGGAAGTGGACTTCCAGAAGAATC  
TACAGTGAGGAGCTGCGTGAGACCAAGCGCCGTATGAGACCCGACTGGTGGAGATTGACAAATGGGAAGC  
AGCGTGAGTTTGAAGCCGGCTGGCGGATGCGCTGCAGGAAGTGCAGGCCAGCATGAGGACCAGGTGGA  
GCAGTATAAGAAGGAGCTGGAGAAGACTTATTCTGCCAAGCTGGACAATGCCAGGCAGTCTGCTGAGAGG  
AACAGCAACCTGGTGGGGCTGCCACGAGGAGCTGCAGCAGTCGCGCATCCGCATCGACAGCCTCTCTG  
CCCAGCTCAGCCAGCTCCAGAAGCAGCTGGCAGCCAAGGAGGCGAAGCTTCGAGACCTGGAGGACTCACT  
GGCCCGTGAGCGGGACACCAGCCGGCGGCTGCTGGCGAAAAGGAGCGGGAGATGGCCGAGATGCGGGCA  
AGGATGCAGCAGCAGCTGGACGAGTACCAGGAGCTTCTGGACATCAAGCTGGCCCTGGACATGGAGATCC  
ACGCTACCCCAAGCTCTTGGAGGGCGAGGAGGAGGCTACGCTGTCCCCAGCCCTACCTCGCAGCG  
CAGCCGTGGCCGTGCTTCTCTCACTATCCAGACACAGGGTGGGGGCAGCGTACCAAAAAGCGCAAA  
CTGGAGTCCACTGAGAGCCGAGCAGCTTCTCACAGCACGCACGCACTAGCGGGCGCTGGCCGTGGAGG  
AGGTGGATGAGGAGGGCAAGTTTGTCCGGCTGCGCAACAAGTCCAATGAGGACCAGTCCATGGGCAATTG  
GCAGATCAAGCGCCAGAATGGAGATGATCCCTTGCTGACTTACCGGTTCCACCAAAGTTACCCTGAAG  
GCTGGGCAGTGGTGACGATCTGGGCTGCAGGAGCTGGGGCCACCCACAGCCCCCTACCGACTGGTGT  
GGAAGGCACAGAACCTGGGGCTGCGGGAACAGCCTGCGTACGGCTCTCATCACTCCACTGGGAAGA  
AGTGGCCATGCGCAAGCTGGTGCCTCAGTACTGTGGTTGAGGACGACGAGGATGAGGATGGAGATGAC  
CTGCTCCATCACACCACGGCTCCCACTGCAGCAGCTCGGGGACCCCGTGAGTACAACCTGCGCTCGC  
GCACCGTGTGCGGGACCTGCGGGCAGCCTGCCGACAAGGCATCTGCCAGCGGCTCAGGAGCCAGGT  
GGGCGGACCCATCTCTCTGGCTTTCTGCCTCCAGTGTACGGTCACTCGCAGTACCGCAGTGTGGGG  
GGCAGTGGGGTGGCAGCTTCGGGGACAATCTGGTCACCCGCTCTACCTCTGGGCAACTCCAGCCCC  
GAACCCAGAGCCCCAGAAGTGCAGCATCATG

**ACGCGT**ACGCGGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC204970 protein sequence  
 Red=Cloning site Green=Tags(s)

METPSQRRATRSGAQASSTPLSPTRITRLQEKEDLQELNDRLAVYIDRVRSLETENAGLRLRITESEEVV  
 SREVSIGIKAAEYAEELGDARKTLDSVAKERARLQLELSKVREEFKELKARNTKKEGDLIAAQARLKDLEAL  
 LNSKEAALSTALSEKRTLEGELHDLRGQVAKLEAALGEAKKQLQDEMLRRVDAENRLQTMKEELDFQKNI  
 YSEELRETKRRHETRLVEIDNGKQREFESRLADALQELRAQHEDQVEQYKKELEKTYSAKLDNARQSAER  
 NSNLVGAHEELQQSRIRIDLSAQLSQLQKQLAAKEAKLRDLEDSLARERDTSRLLAEKEREMAEMRA  
 RMQQQLDEYQELLDIKLALDMEIHAYRKLLLEGEERLRLSPSPTSQRSRGRASSHSSQTQGGGSVTKKRK  
 LESTESRSFSQHARTSGRVAVEEVDEEGKFVRLRNKSNEDQSMGNWQIKRQNGDDPLLYRFPKFTLK  
 AGQVVTIWAAGAGATHSPPTDLVWKAQNTWGCNSLRTALINSTGEEVAMRKLVRVTVVEDDEDEDGDD  
 LLHHHHGSHCSSGDPAEYNLRSRTVLCGTGQPADKASASGGAQVGGPISSGSSASSVTVTRSYRSVG  
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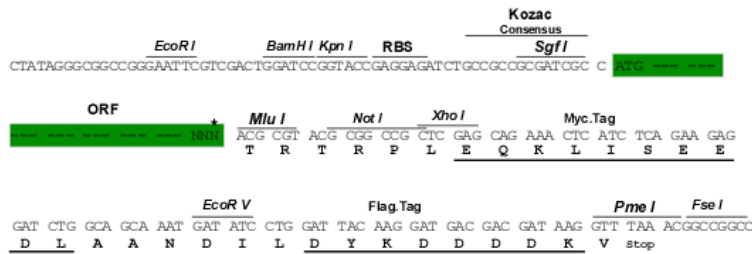
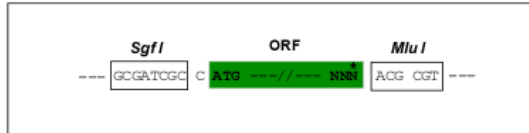
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk6216\\_e10.zip](https://cdn.origene.com/chromatograms/mk6216_e10.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\_170707

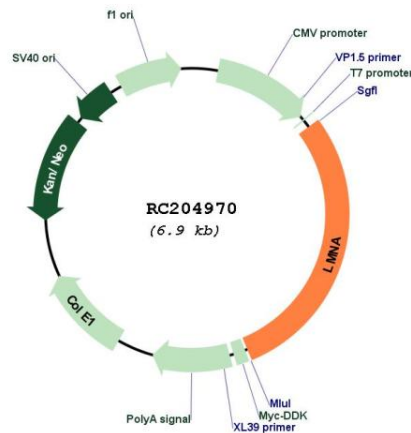
ORF Size: 1992 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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_170707.4</a>
<b>RefSeq Size:</b>	3239 bp
<b>RefSeq ORF:</b>	1995 bp
<b>Locus ID:</b>	4000
<b>UniProt ID:</b>	<a href="#">P02545</a>
<b>Cytogenetics:</b>	1q22
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Arrhythmogenic right ventricular cardiomyopathy (ARVC), Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM)
<b>MW:</b>	74.1 kDa

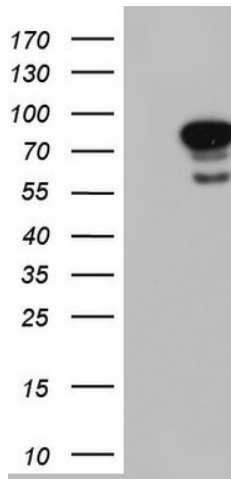
**Gene Summary:**

The nuclear lamina consists of a two-dimensional matrix of proteins located next to the inner nuclear membrane. The lamin family of proteins make up the matrix and are highly conserved in evolution. During mitosis, the lamina matrix is reversibly disassembled as the lamin proteins are phosphorylated. Lamin proteins are thought to be involved in nuclear stability, chromatin structure and gene expression. Vertebrate lamins consist of two types, A and B. Alternative splicing results in multiple transcript variants. Mutations in this gene lead to several diseases: Emery-Dreifuss muscular dystrophy, familial partial lipodystrophy, limb girdle muscular dystrophy, dilated cardiomyopathy, Charcot-Marie-Tooth disease, and Hutchinson-Gilford progeria syndrome. [provided by RefSeq, Apr 2012]

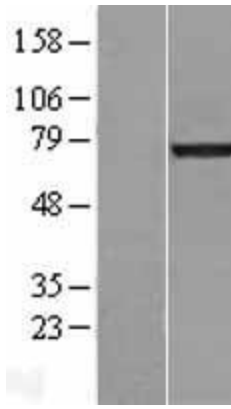
**Product images:**



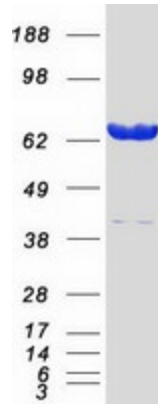
Circular map for RC204970



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY LMNA (Cat# RC204970, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-LMNA (Cat# [TA803489]). Positive lysates [LY406886] (100ug) and [LC406886] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY406886]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204970 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified LMNA protein (Cat# [TP304970]). The protein was produced from HEK293T cells transfected with LMNA cDNA clone (Cat# RC204970) using MegaTran 2.0 (Cat# [TT210002]).