

**Anti-Lamin A/C Rabbit Monoclonal Antibody**  
Catalog # ABO15677

**Specification**

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**Anti-Lamin A/C Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC, IF, ICC, FC
Primary Accession	<a href="#">P02545</a>
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

**Description**

Anti-Lamin A/C Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

**Anti-Lamin A/C Rabbit Monoclonal Antibody - Additional Information**

**Gene ID** 4000

**Other Names**

Prelamin-A/C, Lamin-A/C, 70 kDa lamin, Renal carcinoma antigen NY-REN-32, LMNA, LMN1

**Calculated MW**

70-74 kDa KDa

**Application Details**

WB 1:500-1:2000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>FC 1:50

**Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

**Immunogen**

A synthesized peptide derived from human Lamin A/C

**Purification**

Affinity-chromatography

**Storage**

**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

**Anti-Lamin A/C Rabbit Monoclonal Antibody - Protein Information**

**Name** LMNA

## Synonyms LMN1

### Function

[Lamin-A/C]: Lamins are intermediate filament proteins that assemble into a filamentous meshwork, and which constitute the major components of the nuclear lamina, a fibrous layer on the nucleoplasmic side of the inner nuclear membrane (PubMed:<a href="http://www.uniprot.org/citations/10080180" target="\_blank">10080180</a>, PubMed:<a href="http://www.uniprot.org/citations/10580070" target="\_blank">10580070</a>, PubMed:<a href="http://www.uniprot.org/citations/10587585" target="\_blank">10587585</a>, PubMed:<a href="http://www.uniprot.org/citations/10814726" target="\_blank">10814726</a>, PubMed:<a href="http://www.uniprot.org/citations/11799477" target="\_blank">11799477</a>, PubMed:<a href="http://www.uniprot.org/citations/12075506" target="\_blank">12075506</a>, PubMed:<a href="http://www.uniprot.org/citations/12927431" target="\_blank">12927431</a>, PubMed:<a href="http://www.uniprot.org/citations/15317753" target="\_blank">15317753</a>, PubMed:<a href="http://www.uniprot.org/citations/18551513" target="\_blank">18551513</a>, PubMed:<a href="http://www.uniprot.org/citations/18611980" target="\_blank">18611980</a>, PubMed:<a href="http://www.uniprot.org/citations/2188730" target="\_blank">2188730</a>, PubMed:<a href="http://www.uniprot.org/citations/22431096" target="\_blank">22431096</a>, PubMed:<a href="http://www.uniprot.org/citations/2344612" target="\_blank">2344612</a>, PubMed:<a href="http://www.uniprot.org/citations/23666920" target="\_blank">23666920</a>, PubMed:<a href="http://www.uniprot.org/citations/24741066" target="\_blank">24741066</a>, PubMed:<a href="http://www.uniprot.org/citations/31434876" target="\_blank">31434876</a>, PubMed:<a href="http://www.uniprot.org/citations/31548606" target="\_blank">31548606</a>, PubMed:<a href="http://www.uniprot.org/citations/37788673" target="\_blank">37788673</a>, PubMed:<a href="http://www.uniprot.org/citations/37832547" target="\_blank">37832547</a>). Lamins provide a framework for the nuclear envelope, bridging the nuclear envelope and chromatin, thereby playing an important role in nuclear assembly, chromatin organization, nuclear membrane and telomere dynamics (PubMed:<a href="http://www.uniprot.org/citations/10080180" target="\_blank">10080180</a>, PubMed:<a href="http://www.uniprot.org/citations/10580070" target="\_blank">10580070</a>, PubMed:<a href="http://www.uniprot.org/citations/10587585" target="\_blank">10587585</a>, PubMed:<a href="http://www.uniprot.org/citations/10814726" target="\_blank">10814726</a>, PubMed:<a href="http://www.uniprot.org/citations/11799477" target="\_blank">11799477</a>, PubMed:<a href="http://www.uniprot.org/citations/12075506" target="\_blank">12075506</a>, PubMed:<a href="http://www.uniprot.org/citations/12927431" target="\_blank">12927431</a>, PubMed:<a href="http://www.uniprot.org/citations/15317753" target="\_blank">15317753</a>, PubMed:<a href="http://www.uniprot.org/citations/18551513" target="\_blank">18551513</a>, PubMed:<a href="http://www.uniprot.org/citations/18611980" target="\_blank">18611980</a>, PubMed:<a href="http://www.uniprot.org/citations/22431096" target="\_blank">22431096</a>, PubMed:<a href="http://www.uniprot.org/citations/23666920" target="\_blank">23666920</a>, PubMed:<a href="http://www.uniprot.org/citations/24741066" target="\_blank">24741066</a>, PubMed:<a href="http://www.uniprot.org/citations/31548606" target="\_blank">31548606</a>, PubMed:<a href="http://www.uniprot.org/citations/37788673" target="\_blank">37788673</a>, PubMed:<a href="http://www.uniprot.org/citations/37832547" target="\_blank">37832547</a>). Lamin A and C also regulate matrix stiffness by conferring nuclear mechanical properties (PubMed:<a href="http://www.uniprot.org/citations/23990565" target="\_blank">23990565</a>, PubMed:<a href="http://www.uniprot.org/citations/25127216" target="\_blank">25127216</a>). The structural integrity of the lamina is strictly controlled by the cell cycle, as seen by the disintegration and formation of the nuclear envelope in prophase and telophase, respectively (PubMed:<a href="http://www.uniprot.org/citations/2188730" target="\_blank">2188730</a>, PubMed:<a href="http://www.uniprot.org/citations/2344612" target="\_blank">2344612</a>). Lamin A and C are present in equal amounts in the lamina of mammals (PubMed:<a href="http://www.uniprot.org/citations/10080180" target="\_blank">10080180</a>, PubMed:<a href="http://www.uniprot.org/citations/10580070" target="\_blank">10580070</a>, PubMed:<a href="http://www.uniprot.org/citations/10587585" target="\_blank">10587585</a>, PubMed:<a href="http://www.uniprot.org/citations/10814726" target="\_blank">10814726</a>, PubMed:<a href="http://www.uniprot.org/citations/11799477" target="\_blank">11799477</a>, PubMed:<a href="http://www.uniprot.org/citations/12075506" target="\_blank">12075506</a>

target="\_blank">12075506</a>, PubMed:<a href="http://www.uniprot.org/citations/12927431" target="\_blank">12927431</a>, PubMed:<a href="http://www.uniprot.org/citations/15317753" target="\_blank">15317753</a>, PubMed:<a href="http://www.uniprot.org/citations/18551513" target="\_blank">18551513</a>, PubMed:<a href="http://www.uniprot.org/citations/18611980" target="\_blank">18611980</a>, PubMed:<a href="http://www.uniprot.org/citations/22431096" target="\_blank">22431096</a>, PubMed:<a href="http://www.uniprot.org/citations/23666920" target="\_blank">23666920</a>, PubMed:<a href="http://www.uniprot.org/citations/31548606" target="\_blank">31548606</a>). Also involved in DNA repair: recruited by DNA repair proteins XRCC4 and IFFO1 to the DNA double-strand breaks (DSBs) to prevent chromosome translocation by immobilizing broken DNA ends (PubMed:<a href="http://www.uniprot.org/citations/31548606" target="\_blank">31548606</a>). Required for normal development of peripheral nervous system and skeletal muscle and for muscle satellite cell proliferation (PubMed:<a href="http://www.uniprot.org/citations/10080180" target="\_blank">10080180</a>, PubMed:<a href="http://www.uniprot.org/citations/10814726" target="\_blank">10814726</a>, PubMed:<a href="http://www.uniprot.org/citations/11799477" target="\_blank">11799477</a>, PubMed:<a href="http://www.uniprot.org/citations/18551513" target="\_blank">18551513</a>, PubMed:<a href="http://www.uniprot.org/citations/22431096" target="\_blank">22431096</a>). Required for osteoblastogenesis and bone formation (PubMed:<a href="http://www.uniprot.org/citations/12075506" target="\_blank">12075506</a>, PubMed:<a href="http://www.uniprot.org/citations/15317753" target="\_blank">15317753</a>, PubMed:<a href="http://www.uniprot.org/citations/18611980" target="\_blank">18611980</a>). Also prevents fat infiltration of muscle and bone marrow, helping to maintain the volume and strength of skeletal muscle and bone (PubMed:<a href="http://www.uniprot.org/citations/10587585" target="\_blank">10587585</a>). Required for cardiac homeostasis (PubMed:<a href="http://www.uniprot.org/citations/10580070" target="\_blank">10580070</a>, PubMed:<a href="http://www.uniprot.org/citations/12927431" target="\_blank">12927431</a>, PubMed:<a href="http://www.uniprot.org/citations/18611980" target="\_blank">18611980</a>, PubMed:<a href="http://www.uniprot.org/citations/23666920" target="\_blank">23666920</a>).

### Cellular Location

Nucleus lamina. Nucleus envelope. Nucleus, nucleoplasm. Nucleus matrix. Note=Farnesylation of prelamin-A/C facilitates nuclear envelope targeting and subsequent cleavage by ZMPSTE24/FACE1 to remove the farnesyl group produces mature lamin-A/C, which can then be inserted into the nuclear lamina (PubMed:15317753) EMD is required for proper localization of non-farnesylated prelamin- A/C (PubMed:19323649). Also localizes to the micronuclear envelope in response to response to genome instability (PubMed:37788673)

### Tissue Location

In the arteries, prelamin-A/C accumulation is not observed in young healthy vessels but is prevalent in medial vascular smooth muscle cells (VSMCs) from aged individuals and in atherosclerotic lesions, where it often colocalizes with senescent and degenerate VSMCs. Prelamin-A/C expression increases with age and disease. In normal aging, the accumulation of prelamin-A/C is caused in part by the down-regulation of ZMPSTE24/FACE1 in response to oxidative stress.

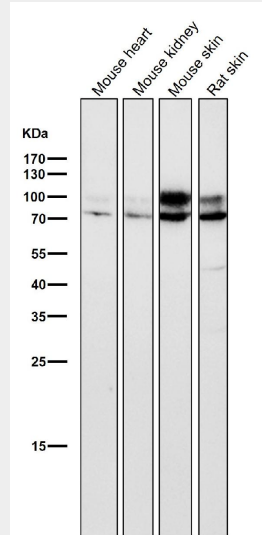
## Anti-Lamin A/C Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

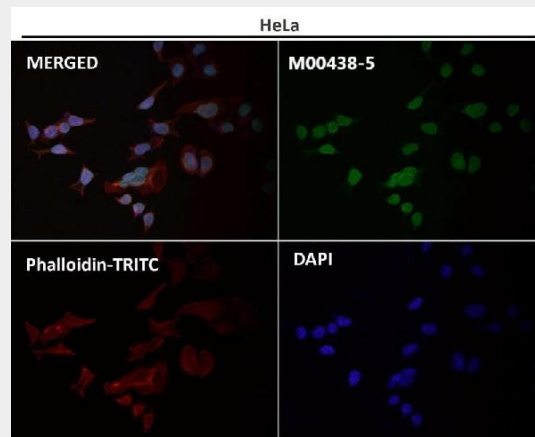
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)

- [Flow Cytometry](#)
- [Cell Culture](#)

**Anti-Lamin A/C Rabbit Monoclonal Antibody - Images**



All lanes use the Antibody at 1:2K dilution for 1 hour at room temperature.



Immunofluorescent analysis using the Antibody at 1:50 dilution.

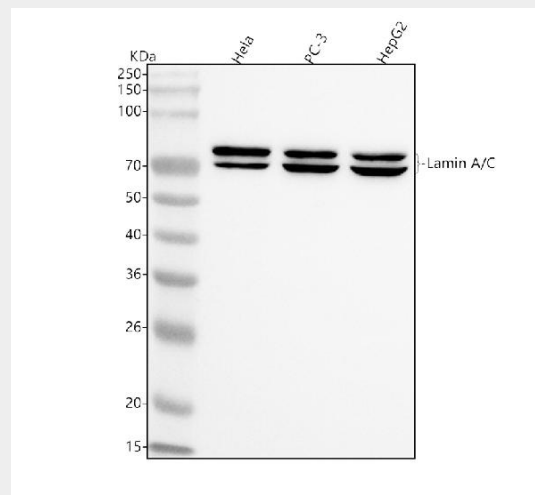


Figure 1. Western blot analysis of LaminA/C using anti-LaminA/C antibody (M00438-5). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human Hela whole cell lysates,

Lane 2: human PC-3 whole cell lysates,

Lane 3: human HepG2 whole cell lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-LaminA/C antigen affinity purified monoclonal antibody (Catalog # M00438-5) at 1:500 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for LaminA/C at approximately 70-74 kDa. The expected band size for LaminA/C is at 74 kDa.