

LMNA Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP18319c**Specification****LMNA Antibody (Center) Blocking Peptide -
Product Information**Primary Accession [P02545](#)**LMNA Antibody (Center) Blocking Peptide -
Additional Information**

Gene ID 4000

Other NamesPrelamin-A/C, Lamin-A/C, 70 kDa lamin,
Renal carcinoma antigen NY-REN-32, LMNA,
LMN1**Format**Peptides are lyophilized in a solid powder
format. Peptides can be reconstituted in
solution using the appropriate buffer as
needed.**Storage**Maintain refrigerated at 2-8°C for up to 6
months. For long term storage store at
-20°C.**Precautions**This product is for research use only. Not
for use in diagnostic or therapeutic
procedures.**LMNA Antibody (Center) Blocking Peptide -
Protein Information**

Name LMNA

Synonyms LMN1

FunctionLamins are components of the nuclear
lamina, a fibrous layer on the nucleoplasmic
side of the inner nuclear membrane, which
is thought to provide a framework for the
nuclear envelope and may also interact
with chromatin. Lamin A and C are present
in equal amounts in the lamina of**LMNA Antibody (Center) Blocking Peptide
- Background**

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. Through alternate splicing, this gene encodes three type A lamin isoforms. 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.

**LMNA Antibody (Center) Blocking Peptide
- References**

Bailey, S.D., et al. Diabetes Care
33(10):2250-2253(2010)Wegner, L., et al. J.
Clin. Endocrinol. Metab.
95(8):3884-3892(2010)Drac, H., et al. Neurol.
Neurochir. Pol. 44(3):291-296(2010)Liu, Q., et
al. PLoS ONE 5 (5), E10874 (2010) :Chaturvedi,
P., et al. PLoS ONE 5 (5), E10620 (2010) :

mammals. 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:31548606). Plays an important role in nuclear assembly, chromatin organization, nuclear membrane and telomere dynamics. Required for normal development of peripheral nervous system and skeletal muscle and for muscle satellite cell proliferation (PubMed:10080180, PubMed:22431096, PubMed:10814726, PubMed:11799477, PubMed:18551513). Required for osteoblastogenesis and bone formation (PubMed:12075506, PubMed:15317753, PubMed:18611980). Also prevents fat infiltration of muscle and bone marrow, helping to maintain the volume and strength of skeletal muscle and bone (PubMed:10587585). Required for cardiac homeostasis (PubMed:10580070, PubMed:12927431, PubMed:18611980, PubMed:23666920).

Cellular Location

Nucleus. Nucleus envelope. Nucleus lamina.
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. EMD is required for proper localization of non-farnesylated prelamin-A/C

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.

LMNA Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)