



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 Names

Prelamin-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

Function

Lamins 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 laminfamily of proteins make up the matrix and are highly conserved inevolution. During mitosis, the lamina matrix is reversibly disassembled as the lamin proteins are phosphorylated. Laminproteins are thought to be involved in nuclear stability, chromatinstructure and gene expression. Vertebrate lamins consist of twotypes, A and B. Through alternate splicing, this gene encodes threetype A lamin isoforms. Mutations in this gene lead to severaldiseases: Emery-Dreifuss muscular dystrophy, familial partiallipodystrophy, limb girdle muscular dystrophy, dilatedcardiomyopathy, Charcot-Marie-Tooth disease, and Hutchinson-Gilfordprogeria 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: 21548606 (225) Blacks and target="hlapk">

target="_blank">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:<a href="http://www.uniprot.org/ci tations/22431096"

target="_blank">22431096,

PubMed:<a href="http://www.uniprot.org/ci tations/10814726"

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PubMed:<a href="http://www.uniprot.org/ci tations/11799477"

target=" blank">11799477,

PubMed:<a href="http://www.uniprot.org/ci tations/18551513"

target="_blank">18551513). Required for osteoblastogenesis and bone formation (PubMed:<a href="http://www.uniprot.org/c itations/12075506"

target="_blank">12075506,

PubMed:<a href="http://www.uniprot.org/ci tations/15317753"

target=" blank">15317753,

PubMed:<a href="http://www.uniprot.org/ci tations/18611980"

target="_blank">18611980). 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/c itations/10587585"

target="_blank">10587585). Required for cardiac homeostasis (PubMed:10580070,

PubMed:<a href="http://www.uniprot.org/ci tations/12927431"

target=" blank">12927431,

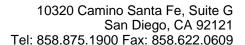
PubMed:<a href="http://www.uniprot.org/ci tations/18611980"

target=" blank">18611980,

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target=" blank">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