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LMNA(Lamin-A/C) Blocking Peptide (Center)

Synthetic peptide
Catalog # BP21250c

Specification

LMNA(Lamin-A/C) Blocking Peptide (Center) - Product Information

Primary Accession P02545

LMNA(Lamin-A/C) Blocking Peptide (Center) - Additional Information

Gene ID 4000

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

Target/Specificity
The synthetic peptide sequence is selected from aa 465-478 of HUMAN LMNA

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(Lamin-A/C) Blocking Peptide (Center) - 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

LMNA(Lamin-A/C) Blocking Peptide (Center) - Background

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 mammals. 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. Required for osteoblastogenesis and bone formation. Also prevents fat infiltration of muscle and bone marrow, helping to maintain the volume and strength of skeletal muscle and bone.

LMNA(Lamin-A/C) Blocking Peptide (Center) - References

McKeon F.D.,et al.Nature 319:463-468(1986).
Fisher D.Z.,et al.Proc. Natl. Acad. Sci. U.S.A. 83:6450-6454(1986).
Sylvius N.,et al.J. Med. Genet. 42:639-647(2005).
Csoka A.B.,et al.Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).

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

tations/23666920"
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(Lamin-A/C) Blocking Peptide (Center) - Protocols

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

- Blocking Peptides