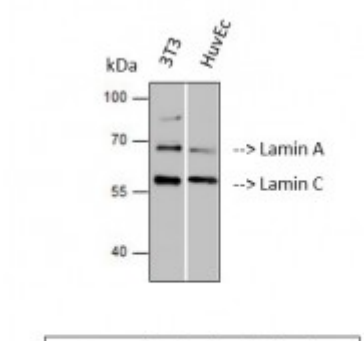
Anti-Lamin A/C antibody



Western Blot (WB) analysis of 3T3 and HuvEc cell lysates using Lamin A/C Antibody (STJ93885)

Description	Lamin A/C is a protein encoded by the LMNA gene which is approximately 74,1 kDa. Lamin A/C is localised to the nucleus and nuclear envelope. It is involved in the apoptosis and survival caspase cascade, mitotic cell cycle, unfolded protein response and arrhythmogenic right ventricular cardiomyopathy. It plays an important role in nuclear assembly, chromatin organization, nuclear membrane and telomere dynamics and is required for normal development of the peripheral nervous system and skeletal muscle. It is also required for osteoblasto genesis and bone formation. Lamin A/C is expressed in the arteries. Mutations in the LMNA gene can result in Emery-Dreifuss muscular dystrophy 2. The antibody STJ93885 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of Lamin A/C protein only when phosphorylated at S392.
Model	STJ93885
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human Lamin A/C around the non-phosphorylation site of S392.
Immunogen Region	330-410 aa
Gene ID	4000
Gene Symbol	LMNA
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:20000

Specificity	Lamin A/C Polyclonal Antibody detects endogenous levels of Lamin A/C protein.
Tissue Specificity	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.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Prelamin-A/C Lamin-A/C 70 kDa lamin Renal carcinoma antigen NY-REN-32
Molecular Weight	75/65 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:6636OMIM:115200
Alternative Names	Prelamin-A/C Lamin-A/C 70 kDa lamin Renal carcinoma antigen NY-REN-32
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 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.; Prelamin-A/C can accelerate smooth muscle cell senescence. It acts to disrupt mitosis and induce DNA damage in vascular smooth muscle cells (VSMCs), leading to mitotic failure, genomic instability, and premature senescence.
Cellular Localization	Nucleus. Nucleus envelope. Nucleus lamina. Nucleus, nucleoplasm. Farnesylation of prelamin-A/C facilitates nuclear envelope targeting and subsequent cleaveage 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.. Isoform C: Nucleus speckle
Post-translational	Increased phosphorylation of the lamins occurs before envelope disintegration

Modifications	and probably plays a role in regulating lamin associations. Proteolytic cleavage of the C-terminal of 18 residues of prelamin-A/C results in the production of lamin-A/C. The prelamin-A/C maturation pathway includes farnesylation of CAAX motif, ZMPSTE24/FACE1 mediated cleavage of the last three amino acids, methylation of the C-terminal cysteine and endoproteolytic removal of the last 15 C-terminal amino acids. Proteolytic cleavage requires prior farnesylation and methylation, and absence of these blocks cleavage. Sumoylation is necessary for the localization to the nuclear envelope. Farnesylation of prelamin-A/C facilitates nuclear envelope targeting.