abcam

ab8984

Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker

Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984) is a mouse monoclonal antibody detecting Lamin A + Lamin C in **Flow Cytometry, IHC-Fr**. Suitable for **Human, Pig**.

- Over 80 publications
- Trusted since 2002

Lab Essentials

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Rat Lmna. Database link P48679
Clone number	131C3
Purification technique	Affinity purification Protein G
Specificity	ab8984 reacts with lamins A and C. Lamins do not appear to be universally distributed among different cell and tissue types. ab8984 has been shown to react with HT1080 cells in Western blot. Other cell/tissue types have not been tested. Customer feedback seems to indicate that ab8984 does not detect Lamin A+C in rat brain lysates (please see AbReviews).
Epitope	Between residues 319-566.
Light chain type	kappa

Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/100 - 1/200
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Pig
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Tested

Species	Pig
Dilution info	1/100 - 1/200
Notes	Recommended range given is for Immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent.

Species	Human
Dilution info	1/100 - 1/200
Notes	Recommended range given is for Immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent.

Target data

See full target information LMNA

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:10080180, PubMed:10580070, PubMed:10587585, PubMed:10814726, PubMed:11799477, PubMed:12075506, PubMed:12927431, PubMed:15317753, PubMed:18551513, PubMed:18611980, PubMed:2188730, PubMed:22431096, PubMed:2344612, PubMed:23666920, PubMed:24741066, PubMed:31434876, PubMed:31548606, PubMed:37788673, PubMed:37832547). 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:10080180, PubMed:10580070, PubMed:10587585, PubMed:10814726, PubMed:11799477, PubMed:12075506, PubMed:12927431, PubMed:15317753, PubMed:18551513, PubMed:18611980, PubMed:22431096, PubMed:23666920, PubMed:24741066, PubMed:31548606, PubMed:37788673, PubMed:37832547). Lamin A and C also regulate matrix stiffness by conferring nuclear mechanical properties (PubMed:23990565, PubMed:25127216). 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:2188730, PubMed:2344612). Lamin A and C are present in equal amounts in the lamina of mammals (PubMed:10080180, PubMed:10580070, PubMed:10587585, PubMed:10814726, PubMed:11799477, PubMed:12075506, PubMed:12927431, PubMed:15317753, PubMed:18551513, PubMed:18611980, PubMed:22431096, PubMed:23666920, PubMed:31548606). 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:31548606). Required for normal development of peripheral nervous system and skeletal muscle and for muscle satellite cell proliferation (PubMed:10080180, PubMed:10814726, PubMed:11799477, PubMed:18551513, PubMed:22431096). 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). Prelamin-A/C. Prelamin-A/C can accelerate smooth muscle cell senescence (PubMed:20458013). It acts to disrupt mitosis and induce DNA damage in vascular smooth muscle cells (VSMCs), leading to mitotic failure, genomic instability, and premature senescence (PubMed:20458013).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-Fr) in Human, Pig samples.

Trusted by the scientific community
Anti-Lamin A + Lamin C [131C3] - Nuclear Envelope Marker (ab8984) was first used in a scientific publication in 2002 and has been cited over 80 times in peer-reviewed journals.

Reviewed by scientists
Anti-Lamin A + Lamin C [131C3] - Nuclear Envelope Marker (ab8984) has over 10 independent reviews from customers.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Lamin A and Lamin C also known as lamin A/C are proteins encoded by the LMNA gene. These proteins are key components of the nuclear envelope where they provide structural support and maintain the shape of the nucleus. The lamin A/C molecule has a molecular weight of approximately 60-70 kDa. Expression of lamin A and lamin C occurs predominantly in differentiated cells where these proteins integrate into the nuclear lamina alongside other lamin molecules like lamin B. Lamin A alone sometimes referred to by designations like 4C11 plays a significant role in mechanical support at a molecular level.
Biological function summary	Lamin A/C proteins play a role in maintaining nuclear stability chromosome organization and gene regulation. They are part of a complex network within the nuclear lamina that includes interactions with proteins and DNA. Lamin A with a molecular weight distinct from other lamins participates in assembling this supportive matrix and contributes to DNA maintenance and repair processes. Their interaction with chromatin and gene expression regulation emphasizes their influence on important cellular functions.
Pathways	Lamin A/C proteins engage in the mechanosensory signaling and DNA damage response pathways. They interact with pathways involving the nuclear envelope structure and have connections to proteins like emerin and nuclear actin. Lamin A's role in these pathways supports its involvement in responding to mechanical stress and preserving genomic integrity highlighting its integration with these cellular processes.
Associated diseases and disorders	Mutations in lamin A/C are linked to disorders such as Hutchinson-Gilford Progeria Syndrome and Emery-Dreifuss Muscular Dystrophy. These conditions highlight the importance of lamin A/C in cellular stability and nuclear integrity. Proteins such as

emerin often relate to lamin A/C in these diseases as disruptions to their interactions can lead to compromised nuclear function and disease phenotypes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

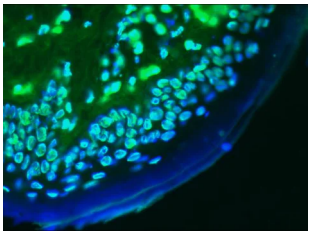
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

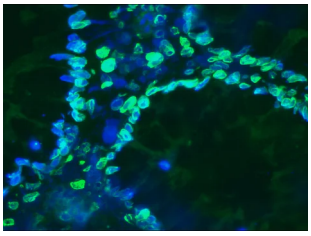
4 product images



Immunohistochemistry (Frozen sections) - Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984)

Lamin A + Lamin C Immunohistochemistry (Frozen sections) staining using mouse Anti-Lamin A + Lamin C antibody

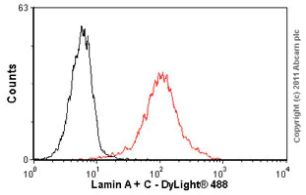
IHC-Fr of human colon showing nuclear lamina staining in epithelial and connective tissue cells.



Immunohistochemistry (Frozen sections) - Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984)

Lamin A + Lamin C Immunohistochemistry (Frozen sections) staining using mouse Anti-Lamin A + Lamin C antibody

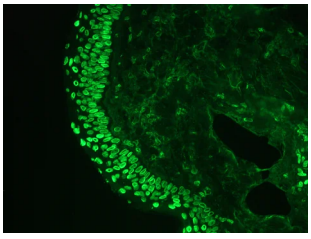
ab8984 on frozen sections of human colon showing strong positive staining in nuclei of the epithelial cells and to a lesser extent in the connective tissue.



Flow Cytometry - Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984)

Lamin A + Lamin C Flow Cytometry staining using mouse Anti-Lamin A + Lamin C antibody

Overlay histogram showing HeLa cells stained with ab8984 (red line). The cells were fixed with 100% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum (ab7481) / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab8984, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was Mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Immunohistochemistry (Frozen sections) - Anti-Lamin A + Lamin C antibody [131C3] - Nuclear Envelope Marker (ab8984)

Lamin A + Lamin C Immunohistochemistry (Frozen sections) staining using mouse Anti-Lamin A + Lamin C antibody

ab8984 (1/500) on frozen sections of pig skin showing strong positive staining in nuclei of the epidermal cells and to a lesser extent in the connective tissue.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.