abcam

ab240124

Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR9701(B)
Purification technique	Affinity purification Protein A
Concentration	0.986 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information LMNB2

Function 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:33033404). 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:33033404). 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:33033404).

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	+4°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

ab240124 is the carrier-free version of ab151735.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Lamin B2 also referred to as 'ln43' or 'lmnB2' is a lamin molecule with a molecular weight of approximately 66 kDa. It is an important component of the nuclear lamina an essential structure that provides mechanical support to the nuclear envelope. Lamin B2 is expressed in most cell types and is particularly abundant in cells with high proliferative capacity such as those in the fetal brain and liver. The protein is encoded by the LMNB2 gene and functions as an integral part of the nuclear envelope's architecture by interacting with other nuclear proteins.

Biological function summary	Lamin B2 plays a critical role in maintaining nuclear stability and chromatin organization. It is a part of a larger complex that includes Lamin B and other nuclear matrix proteins. This structural matrix is important for chromosomal segregation during cell division ensuring that the genetic material is evenly distributed between daughter cells. Lamin B2 also facilitates processes such as DNA replication and repair by serving as a scaffold for anchoring various molecular components within the nucleus.
Pathways	Lamin B2 is implicated in the regulation of the mitotic spindle formation during cell division which is a part of the cell cycle pathway. It interacts with proteins such as Lamin A and other nucleoporins contributing to the proper formation of nuclear pore complexes. Furthermore it plays a role in the pathway of apoptosis by modulating the release of factors from the nucleus that trigger cell death mechanisms. These interactions emphasize its importance in maintaining cellular function and integrity.
Associated diseases and disorders	Alterations in Lamin B2 expression or function have been linked to certain types of cancer such as glioblastoma as well as to laminopathies. Laminopathies are a group of disorders caused by mutations in lamin proteins leading to defects in nuclear structure and function. Besides aberrant Lamin B2 is associated with neurological disorders through its interactions with other nuclear envelope protein components like Lamin A/C. These connections highlight the importance of Lamin B2 in both physiological processes and pathologies.

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

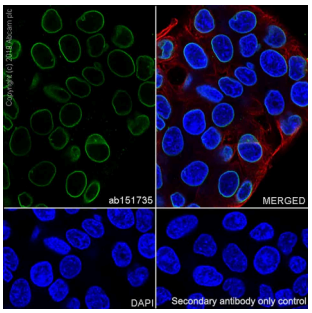
We do not recommend this combination. It is not covered by our product promise.

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.

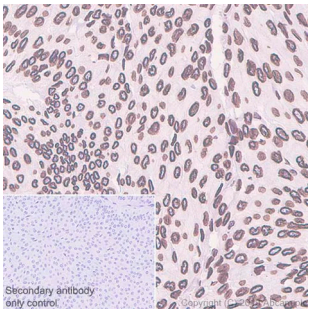
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Lamin B2 antibody

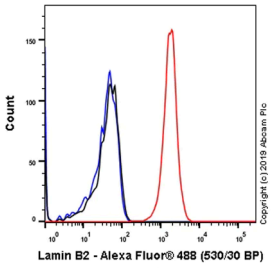
This data was developed using ab151735, the same antibody clone in a different buffer formulation.
Immunocytochemistry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling Lamin B2 with Purified ab240124 at 1:50 dilution (2.18 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Lamin B2 antibody

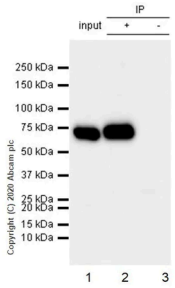
This data was developed using ab151735, the same antibody clone in a different buffer formulation.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human bladder cancer tissue sections labeling Lamin B2 with Purified ab240124 at 1:100 dilution (1.09 µg/ml). Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Flow Cytometry (Intracellular) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Flow Cytometry (Intracellular) staining using rabbit Anti-Lamin B2 antibody

This data was developed using ab151735, the same antibody clone in a different buffer formulation.Intracellular Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling Lamin B2 with Purified ab240124 at 1/20 dilution (10µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



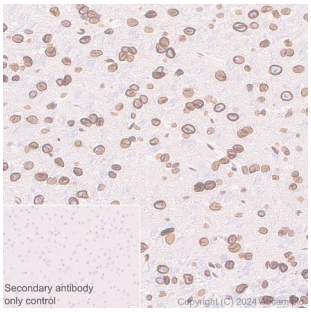
Immunoprecipitation - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

This data was developed using ab151735, the same antibody clone in a different buffer formulation.
Purified ab151735 at 1/20 dilution (0.5µg) immunoprecipitating Lamin B2 in HepG2 whole cell lysate.
Lane 1 (input): HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab151735 + HepG2 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab151735 in HepG2 whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 68 kDa

All lanes:
Immunoprecipitation - Anti-Lamin B2 antibody [EPR9701(B)] (ab151735)

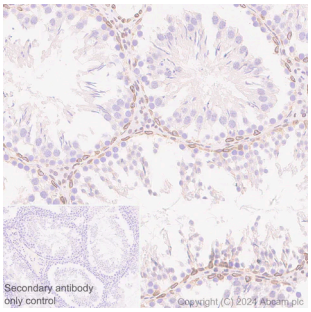
Predicted band size: 33 kDa, 68 kDa

Observed band size: 47 kDa



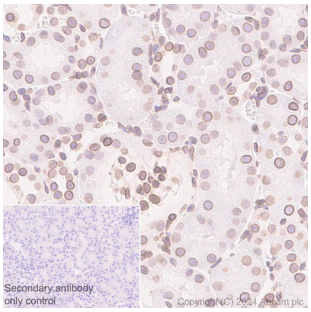
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

This data was developed using ab151735, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse cerebrum tissues labelling Lamin B2 with ab151735 at 1:2000 dilution and ready to use secondary LeicaDS9800 (Bond™ Polymer Refine Detection) counterstainined with Hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Nuclear envelope staining on mouse cerebrum. The section was incubated with ab151735 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument



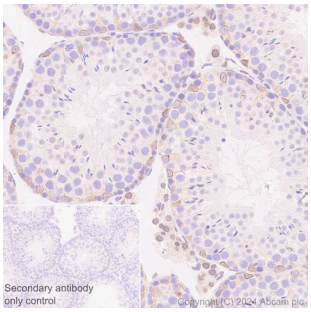
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

"This data was developed using ab151735, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat testis tissues labelling Lamin B2 with ab151735 at 1:2000 dilution and ready to use secondary LeicaDS9800 (Bond™ Polymer Refine Detection) counterstainined with Hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Nuclear envelope staining on rat testis. The section was incubated with ab151735 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument"



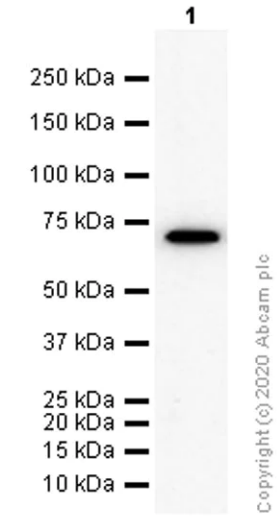
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

This data was developed using ab151735, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse kidney tissues labelling Lamin B2 with ab151735 at 1:2000 dilution and ready to use secondary LeicaDS9800 (Bond™ Polymer Refine Detection) counterstainined with Hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Nuclear envelope staining on mouse kidney. The section was incubated with ab151735 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

"This data was developed using ab151735, the same antibody clone in a different buffer formulation. Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissues labelling Lamin B2 with ab151735 at 1:2000 dilution and ready to use secondary LeicaDS9800 (Bond™ Polymer Refine Detection) counterstainined with Hematoxylin. Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins. Nuclear envelope staining on mouse testis. The section was incubated with ab151735 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument"



Western blot - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Western blot staining of HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate using rabbit Anti-Lamin B2 antibody

This data was developed using ab151735, the same antibody clone in a different buffer formulation.
Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-Lamin B2 antibody [EPR9701(B)] (ab151735) at 1/2000 dilution

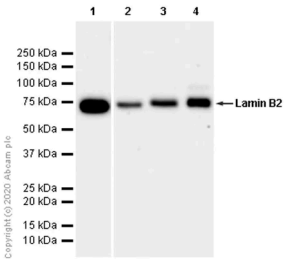
All lanes:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa



Western blot - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Western blot staining using rabbit Anti-Lamin B2 antibody

This data was developed using ab151735, the same antibody clone in a different buffer formulation.
Blocking Buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-Lamin B2 antibody [EPR9701(B)] (ab151735) at 1/2000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
Mouse testis lysate at 20 µg

Lane 3:
Rat spleen lysate at 20 µg

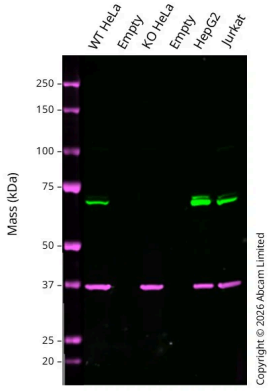
Lane 4:
Rat testis lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa



Western blot - Anti-Lamin B2 antibody [EPR9701(B)] - BSA and Azide free (ab240124)

Lamin B2 Western blot staining using rabbit Anti-Lamin B2 antibody

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA and sodium azide (ab151735).

Western blot: Anti-Lamin B2 antibody [EPR9701(B)] ab151735 staining at 1/2000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 68 kDa in Wild-type HeLa cell line with no signal observed at this size in LMNB2 knockout HeLa cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-Lamin B2 antibody [EPR9701(B)] (ab151735) at 1/2000 dilution

Lane 1:
Wild-type HeLa cell lysates at 20 µg

Lanes 2 and 4:
Empty

Lane 3:

Western blot - Human LMNB2 knockout HeLa cell line (ab274914) at 20 µg

Lane 5:
HepG2 cell lysates at 20 µg

Lane 6:
Jurkat cell lysates at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 68 kDa

Observed band size: 68 kDa

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