abcam

ab200427

# Alexa Fluor® 647 Anti-Lamin B2 antibody [EPR9701(B)]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Conjugation** | Alexa Fluor® 647 |
| **Excitation/Emission** | Ex: 650nm, Em: 665nm |
| **Storage buffer** | pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR9701(B) |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

**Tested**

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/50 |
| **Notes** | - |

### Expected

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

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/200 |
| **Notes** | - |

### Expected

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

## Flow Cyt (Intra)

### Expected

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

## Target data

See full target information LMNB2

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|---|---|
| **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

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|---|---|
| **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, Store in the dark |

## Notes

**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.

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## 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.

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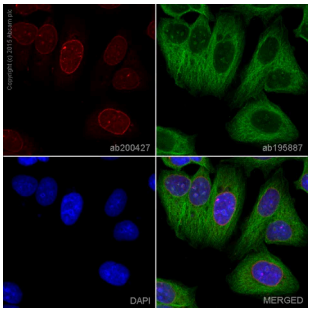
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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## 3 product images

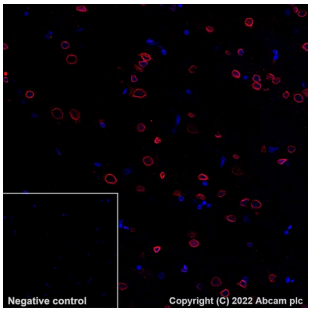



### Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-Lamin B2 antibody [EPR9701(B)] (ab200427)

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

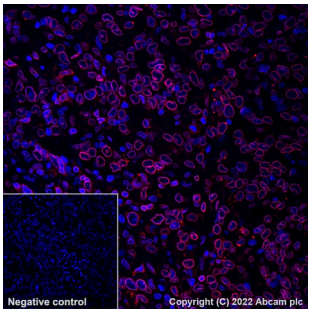
ab200427 staining Lamin B2 in HeLa cells. The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab200427 at 1/200 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 2µg/ml (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-Lamin B2 antibody [EPR9701(B)] (ab200427)

Immunohistochemistry analysis of paraffin-embedded human cerebrum tissue section labelling Lamin B2 with ab200427 at 1/50 dilution. The section was incubated with ab200427 for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 40 mins.
Nuclear envelope staining on human cerebrum tissue. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).
**Negative control:** Phosphate buffered saline (PBS).




# Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-Lamin B2 antibody [EPR9701(B)] (ab200427)

Immunohistochemistry analysis of paraffin-embedded human bladder transitional cell carcinoma tissue section labelling Lamin B2 with ab200427 at 1/50 dilution. The section was incubated with ab200427 for 60 mins at room temperature (shown in red). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 40 mins.
Nuclear envelope staining on human bladder transitional cell carcinoma tissue. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).
**Negative control:** Phosphate buffered saline (PBS).

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