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BM4502 Monoclonal Antibody to Lamin-B2 (LMNB2) - Purified

Alternate names: LMN2, LMNB, LMNB-2, LMNB2, Lamin-B2, Nuclear Envelope Marker

Quantity: 0.1 mg

Concentration: 1.0 mg/ml

Background: An important part of the cell nucleus is formed by nuclear lamina. Nuclear lamins form a network of filaments at the nucleoplasmic site of the nuclear membrane. Two main subtypes of nuclear lamins can be distinguished, i.e. A-type lamins and B-type lamins. The A-type lamins comprise a set of three proteins arising from the same gene by alternative splicing, i.e. lamin A, lamin C and lamin Adel10, while the B-type lamins include two proteins arising from two distinct genes, i.e. lamin B1 and lamin B2. The nuclear lamins comprise a unique subclass of the intermediate filament protein family. They share a molecular domain organisation with the other intermediate filament proteins in that they are fibrous molecules that have an aminoterminal globular head, a central rod of a-helices and a carboxyterminal globular domain. Many biochemical and molecular features of lamins have been studied, but their functions remain still largely undetermined. One of the functions ascribed to the lamina is the maintenance of the structural integrity of the nucleus. Besides interactions with the nuclear membrane and other intermediate filaments, lamins interact with the nuclear chromatin. Eukaryotic chromatin is organised into loops, which are attached to the nuclear matrix. This organisation is thought to contribute to compaction of the chromatin and regulation of gene expression. Lamins, as part of the nuclear matrix, may be involved in these processes since chromatin binding sites have been detected in both A- and B-type lamins.

Uniprot ID: Q03252

NCBI: NP_116126.2

GeneID: 84823

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), AM03095PU-N

Clone: LN43

Immunogen: Detergent insoluble fraction of potoroo cell line PtK1.

Format: **State:** Liquid purified IgG fraction.
Buffer System: PBS with 0.09% Sodium Azide as preservative.

Applications: Suitable for Immunocytochemistry on Frozen Sections, Immunoblotting and Flow Cytometry.
Recommended Dilutions:
1/100-1/200 for Flow cytometry and for Immunohistochemistry with avidin-biotinylated horseradish peroxidase complex (ABC) as detection reagent.
1/100-1/1000 for Immunoblotting applications.

For research and in vitro use only. Not for diagnostic or therapeutic work.
Material Safety Datasheets are available at www.acris-antibodies.com or on request.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Reacts with an epitope located in the C-terminal part of Lamin B2.
Species: Human, Mouse, Hamster, Swine, Xenopus, Zebrafish.
Other species not tested.

Storage:

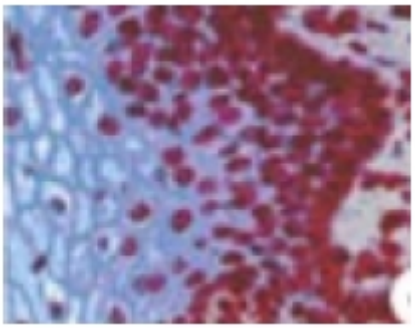
Store the antibody (undiluted) at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freeze-thaw cycles.
Shelf life: One year from despatch.

General Readings:

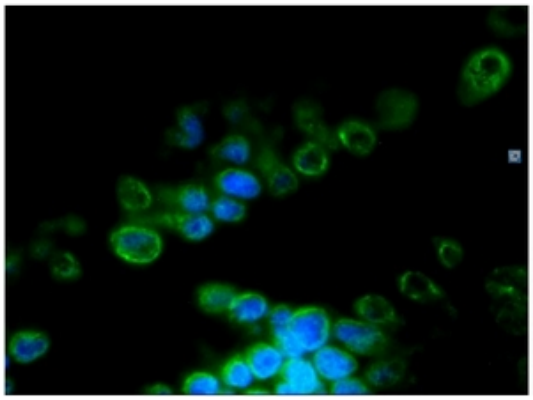
1. Bridger JM, Kill IR, O'Farrell M, Hutchison CJ. Internal lamin structures within G1 nuclei of human dermal fibroblasts. J Cell Sci. 1993 Feb;104 (Pt 2):297-306. PubMed PMID: 8505362.
2. Jenkins H, Hölman T, Lyon C, Lane B, Stick R, Hutchison C. Nuclei that lack a lamina accumulate karyophilic proteins and assemble a nuclear matrix. J Cell Sci. 1993 Sep;106 (Pt 1):275-85. PubMed PMID: 7903671.
3. Hozák P, Sasseville AM, Raymond Y, Cook PR. Lamin proteins form an internal nucleoskeleton as well as a peripheral lamina in human cells. J Cell Sci. 1995 Feb;108 (Pt 2):635-44. PubMed PMID: 7769007.
4. Machiels BM, Broers JL, Raymond Y, de Ley L, Kuijpers HJ, Caberg NE, et al. Abnormal A-type lamin organization in a human lung carcinoma cell line. Eur J Cell Biol. 1995 Aug;67(4):328-35. PubMed PMID: 8521872.
5. Machiels BM, Zorenc AH, Endert JM, Kuijpers HJ, van Eys GJ, Ramaekers FC, et al. An alternative splicing product of the lamin A/C gene lacks exon 10. J Biol Chem. 1996 Apr 19;271(16):9249-53. PubMed PMID: 8621584.
6. Machiels BM, Ramaekers FC, Kuijpers HJ, Groenewoud JS, Oosterhuis JW, Looijenga LH. Nuclear lamin expression in normal testis and testicular germ cell tumours of adolescents and adults. J Pathol. 1997 Jun;182(2):197-204. PubMed PMID: 9274531.
7. Jansen MP, Machiels BM, Hopman AH, Broers JL, Bot FJ, Arends JW, et al. Comparison of A and B-type lamin expression in reactive lymph nodes and nodular sclerosing Hodgkin's disease. Histopathology. 1997 Oct;31(4):304-12. PubMed PMID: 9363444.
8. Broers JL, Machiels BM, Kuijpers HJ, Smedts F, van den Kieboom R, Raymond Y, et al. A- and B-type lamins are differentially expressed in normal human tissues. Histochem Cell Biol. 1997 Jun;107(6):505-17. PubMed PMID: 9243284.

Pictures:

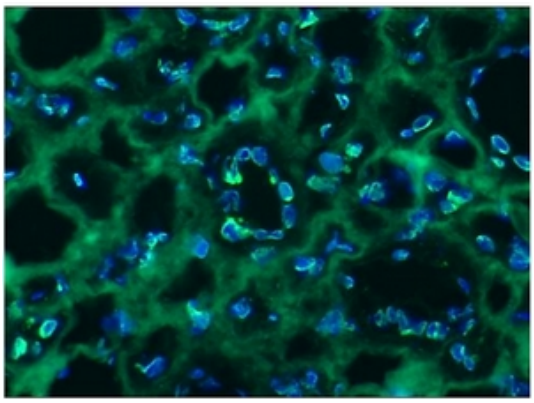
BM4502 Lamin B2 antibody
Immunostaining of Human epidermis.



Immunofluorescence staining of a 9 days old Zebrafish embryo



Immunohistochemistry on frozen sections of human kidney showing nuclear lamina staining in the ductal epithelium.



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