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Anti-Lamin B1 Picoband Antibody

Catalog # ABO12297

Product Information

Application	WB, IHC-P, IHC-F, ICC
Primary Accession	P20700
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Lamin-B1(LMNB1) detection. Tested with WB, IHC-P, IHC-F, ICC in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	4001
Other Names	Lamin-B1, LMNB1, LMN2, LMNB
Calculated MW	66408
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, By Heat Immunohistochemistry(Frozen Section), 0.5-1 □g/ml Immunocytochemistry, 0.5-1 □g/ml Western blot, 0.1-0.5 □g/ml
Subcellular Localization	Nucleus inner membrane; Lipid-anchor; Nucleoplasmic side.
Source	Eukaryota
Protein Name	Lamin-B1
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human Lamin B1 recombinant protein (Position: Q266-C583). Human Lamin B1 shares 95.9% and 95% amino acid (aa) sequence identity with mouse and rat Lamin B1, respectively.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities	Belongs to the intermediate filament family.

Protein Information

Name	LMNB1
Synonyms	LMN2, LMNB
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:28716252, PubMed:32910914). 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:28716252, PubMed:32910914). 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:28716252, PubMed:32910914). Plays a role in sperm morphological development during late stages of spermiogenesis, particularly the anchoring of the sperm head to the tail (PubMed:38870534). Component of the LMNB1/SUN5/SEPT12 bridge that connects the sperm proximal centriole to the implantation fossa, the bridge functions to prevent detachment of the proximal centriole from the posterior nucleus during spermiogenesis (PubMed:38870534).
Cellular Location	Nucleus lamina. Note=Expressed in the posterior part of the nucleus during mid-steps of spermiogenesis, expression becomes more localized to the implantation fossa in later stages (By similarity) Expressed at the neck region in mature sperm (By similarity) {ECO:0000250|UniProtKB:P14733}

Background

Lamin-B1 is a protein that in humans is encoded by the LMNB1 gene. The nuclear lamina consists of a two-dimensional matrix of proteins located next to the inner nuclear membrane. The lamin family of proteins make up the matrix and are highly conserved in evolution. During mitosis, the lamina matrix is reversibly disassembled as the lamin proteins are phosphorylated. Lamin proteins are thought to be involved in nuclear stability, chromatin structure and gene expression. Vertebrate lamins consist of two types, A and B. This gene encodes one of the two B type proteins, B1.

Images

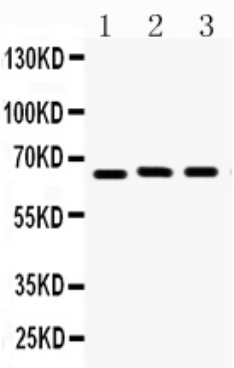

Figure 1. Western blot analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: U87 Whole Cell Lysate, Lane 2: PC-12 Whole Cell Lysate, Lane 3: NIH3T3 Whole Cell Lysate. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Lamin B1 antigen affinity purified polyclonal antibody (Catalog # ABO12297) at 0.5 □¼g/mL overnight at 4 □°C, then washed with TBS-0.1%Tween 3

times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for Lamin B1 at approximately 67KD. The expected band size for Lamin B1 is at 67KD.

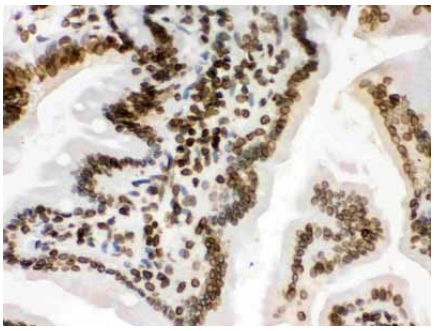

Figure 2. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in paraffin-embedded section of Mouse Intestine Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

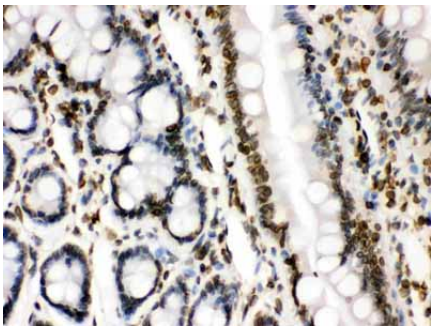

Figure 3. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in paraffin-embedded section of Rat Intestine Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

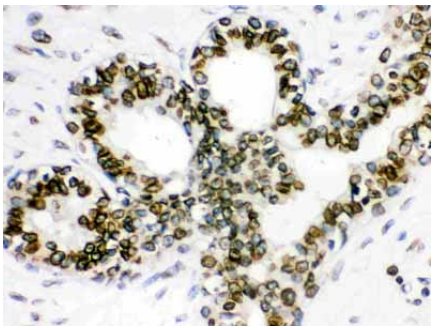

Figure 4. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in paraffin-embedded section of Human Mammary Cancer Tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

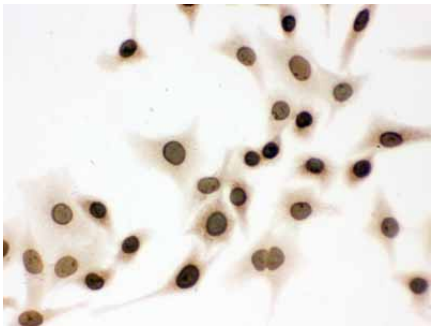

Figure 5. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in immunocytochemical section of A549 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and

incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

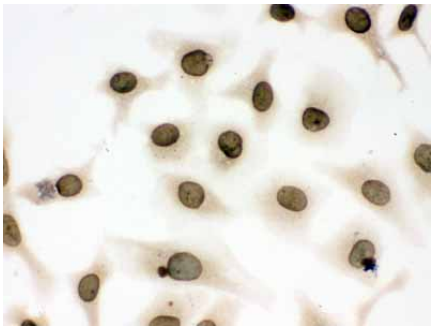

Figure 6. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in immunocytochemical section of Hela cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

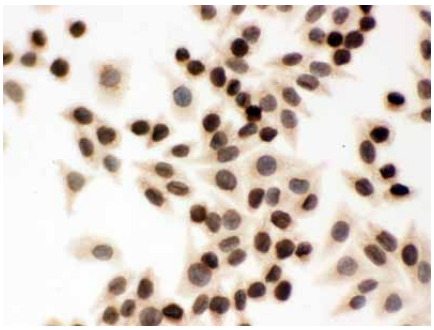

Figure 7. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in immunocytochemical section of SMMC-7721 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

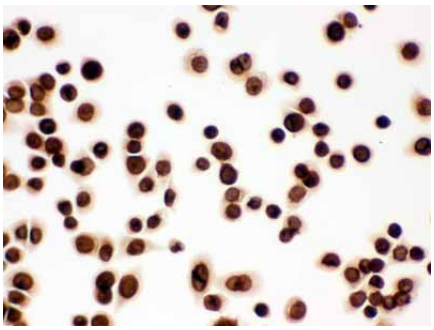

Figure 8. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in immunocytochemical section of SW480 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

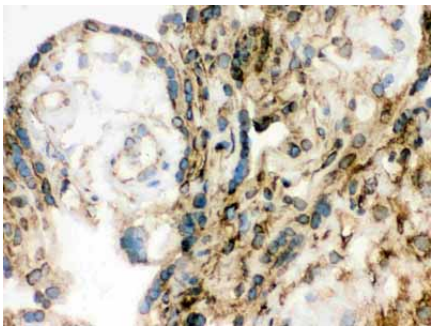

Figure 9. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in frozen section of human placenta tissue . Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 °C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 °C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

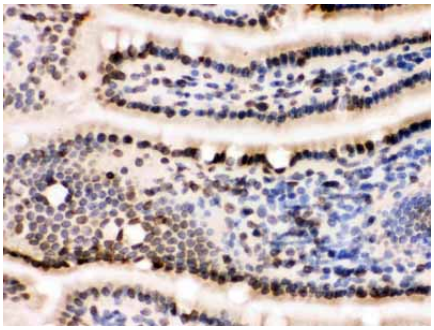

Figure 10. IHC analysis of Lamin B1 using anti-Lamin B1 antibody (ABO12297). Lamin B1 was detected in frozen section of mouse small intestine tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 □¼g/ml rabbit anti-Lamin B1 Antibody (ABO12297) overnight at 4 □°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 □°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.

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