Anti-Lamin A + Lamin C Antibody [PSH05-20] - BSA and Azide free

HA750991

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 74 kDa
Clone number:	PSH05-20

Description: Prelamin-A/C, or lamin A/C is a protein that in humans is encoded by the LMNA gene. Lamin A/C belongs to the lamin family of proteins. DNA double-strand damages can be repaired by either homologous recombination (HR) or non-homologous end joining (NHEJ). LMNA promotes genetic stability by maintaining the levels of proteins that have key roles in HR and NHEJ. Mouse cells that are deficient for maturation of prelamin A have increased DNA damage and chromosome aberrations, and show increased sensitivity to DNA damaging agents. In progeria, the inadequacy of DNA repair, due to defective LMNA, may cause features of premature aging (see DNA damage theory of aging).

Immunogen: Recombinant protein within Human Lamin A/C aa 1-566.

Positive control: HeLa cell lysate, HepG2 cell lysate, HeLa, human breast tissue, human skin tissue, human colon tissue, mouse colon tissue, rat colon tissue.

Subcellular location: Nucleus lamina, Nucleus envelope, nucleoplasm, Nucleus matrix; Nucleus speckle.

Database links: SwissProt: P02545 Human | P48678 Mouse | P48679 Rat

Recommended Dilutions:

WB	1:1,000-1:2,000
IF-Cell	1:200
IHC-P	1:200-1:5,000
FC	1:1,000

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

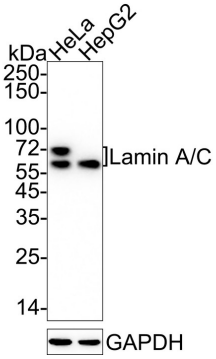

Fig1: Western blot analysis of Lamin A + Lamin C on different lysates with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/1,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: HepG2 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 74 kDa
Observed band size: 72/60 kDa

Exposure time: 25 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750991) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

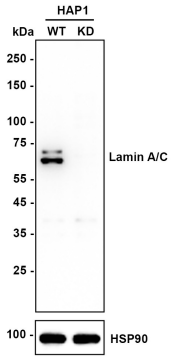

Fig2: Western blot analysis of Lamin A + Lamin C on different lysates with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/2,000 dilution.

Lane 1: HAP1-parental cell lysate
Lane 2: HAP1-Lamin A + Lamin C KD cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 74 kDa
Observed band size: 72/60 kDa

Exposure time: 40 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA750991) at 1/2,000 dilution was used in K1803 at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

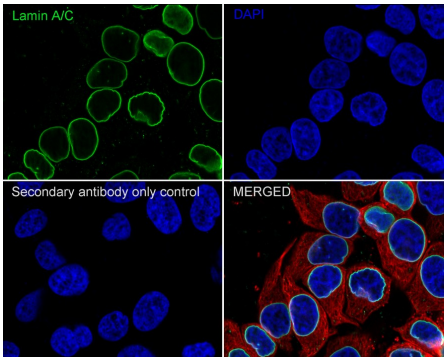

Fig3: Immunocytochemistry analysis of HeLa cells labeling Lamin A + Lamin C with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/200 dilution.

Cells were fixed in 4% paraformaldehyde for 10 minutes at 37 ℃, permeabilized with 0.05% Triton X-100 in PBS for 20 minutes, and then blocked with 2% negative goat serum for 30 minutes at room temperature. Cells were then incubated with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/200 dilution in 2% negative goat serum overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/200 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

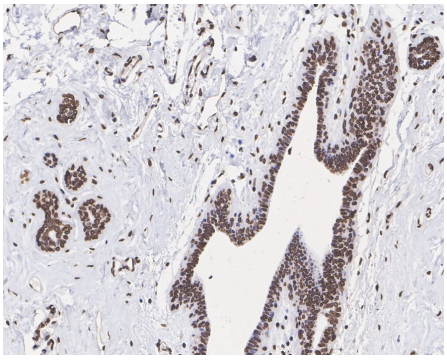

Fig4: Immunohistochemical analysis of paraffin-embedded human breast tissue with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750991) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

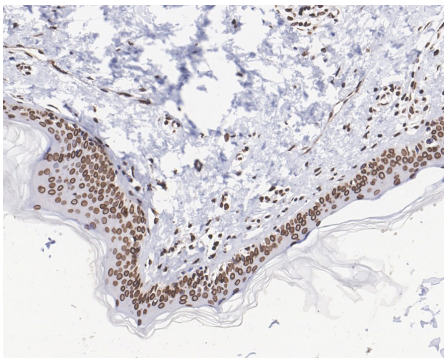

Fig5: Immunohistochemical analysis of paraffin-embedded human skin tissue with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/5,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750991) at 1/5,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

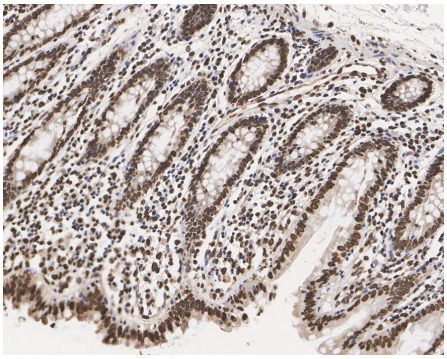

Fig6: Immunohistochemical analysis of paraffin-embedded human colon tissue with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750991) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

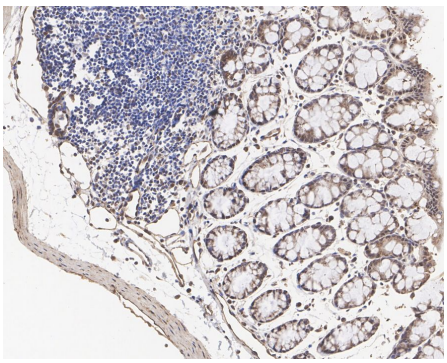

Fig7: Immunohistochemical analysis of paraffin-embedded mouse colon tissue with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750991) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

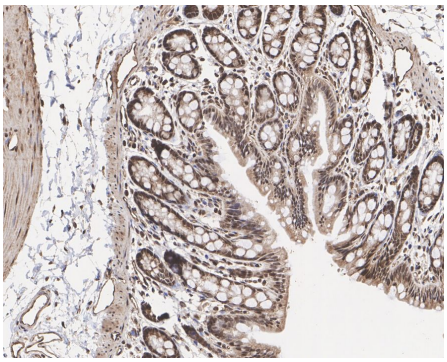

Fig8: Immunohistochemical analysis of paraffin-embedded rat colon tissue with Rabbit anti-Lamin A + Lamin C antibody (HA750991) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750991) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

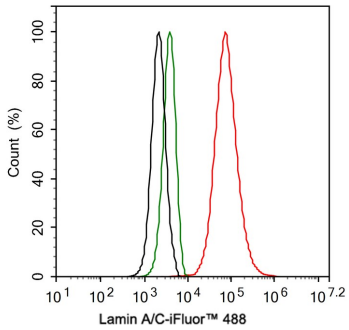

Fig9: Flow cytometric analysis of HeLa cells labeling Lamin A + Lamin C.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA750991, 1ug/ml) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Kovacs MT et. al. DNA damage induces nuclear envelope rupture through ATR-mediated phosphorylation of lamin A/C. Mol Cell. 2023 Oct
2. Yamada S et al. TEAD1 trapping by the Q353R-Lamin A/C causes dilated cardiomyopathy. Sci Adv. 2023 Apr