Anti-Phospho-Lamin A + Lamin C (S22) Antibody [PSH11-47]

HA723339

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 74 kDa
Clone number:	PSH11-47

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: Synthetic phospho-peptide corresponding to residues surrounding Ser22 of Human Lamin A + Lamin C.

Positive control: HeLa treated with 100nM paclitaxel for 20 hours cell lysate, NIH/3T3 treated with 100nM paclitaxel for 20 hours cell lysate, human skin tissue, mouse liver tissue, mouse skin tissue, rat breast tissue, rat skin tissue.

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

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

Recommended Dilutions:

WB	1:2,000
IHC-P	1:2,000-1:4,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

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

Purity: Protein A affinity purified.

Images

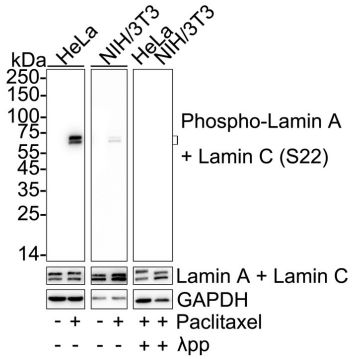

Fig1: Western blot analysis of Phospho-Lamin A + Lamin C (S22) on different lysates with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/2,000 dilution and pan Lamin A + Lamin C antibody (ET7110-12) at 1/2,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: HeLa treated with 100nM paclitaxel for 20 hours cell lysate
Lane 3: NIH/3T3 cell lysate
Lane 4: NIH/3T3 treated with 100nM paclitaxel for 20 hours cell lysate
Lane 5: HeLa treated with 100nM paclitaxel for 20 hours cell lysate, then the membrane treated with λpp for 1 hour
Lane 5: NIH/3T3 treated with 100nM paclitaxel for 20 hours cell lysate, then the membrane treated with λpp for 1 hour

Lysates/proteins at 20 µg/Lane.

Predicted band size: 74 kDa
Observed band size: 70/65 kDa

Exposure time: Lane 1-2: 3 seconds; Lane 3-6: 3 minutes; 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 (HA723339) at 1/2,000 dilution and pan Lamin A + Lamin C antibody (ET7110-12) at 1/2,000 dilution were 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.

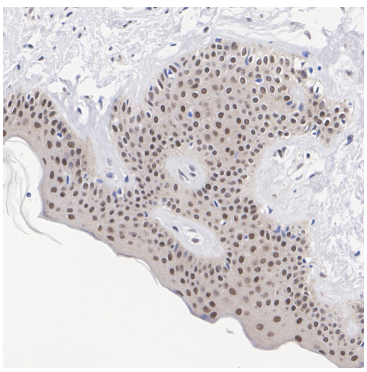

Fig2: Immunohistochemical analysis of paraffin-embedded human skin tissue with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 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 (HA723339) at 1/2,000 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.

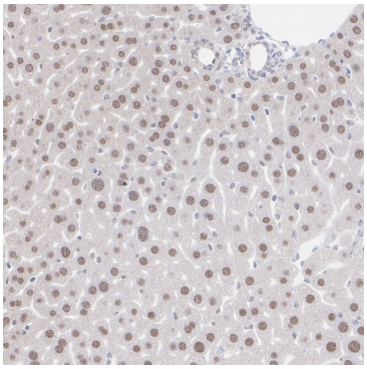

Fig3: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/4,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 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 (HA723339) at 1/4,000 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.

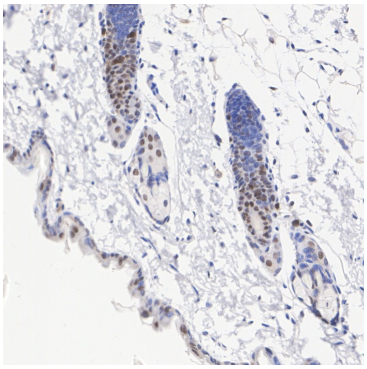

Fig4: Immunohistochemical analysis of paraffin-embedded mouse skin tissue with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/2,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 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 (HA723339) at 1/2,000 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.

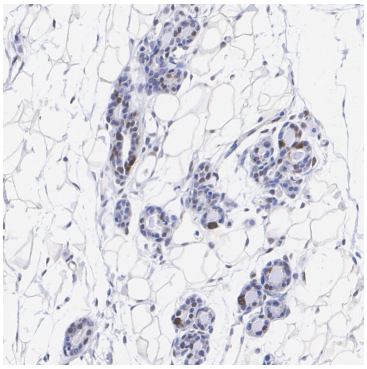

Fig5: Immunohistochemical analysis of paraffin-embedded rat breast tissue with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/4,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 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 (HA723339) at 1/4,000 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.

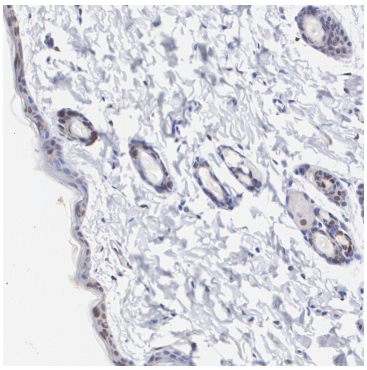

Fig6: Immunohistochemical analysis of paraffin-embedded rat skin tissue with Rabbit anti-Phospho-Lamin A + Lamin C (S22) antibody (HA723339) at 1/4,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 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 (HA723339) at 1/4,000 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.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

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 Aprv