Data Sheet (Cat.No.TMAH-00699)

Anti-LMNA Antibody (9Q55)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	9Q55
Purification:	Affinity-chromatography

Applications

Verified Activity:

1. IHC image of TMAH-00699 diluted at 1:115 and staining in paraffin-embedded human glioma cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.
2. IHC image of TMAH-00699 diluted at 1:115 and staining in paraffin-embedded human breast cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.
3. Immunofluorescence staining of Hela cells with TMAH-00699 at 1:38, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).
4. Immunoprecipitating Lamin A/C in Hela whole cell lysate
Lane 1: Rabbit control IgG instead of TMAH-00699 in Hela whole cell lysate.
For western blotting, a HRP-conjugated Protein G antibody was used as the secondary antibody (1/2000)
Lane 2: TMAH-00699 (3µg) + Hela whole cell lysate (500µg)
Lane 3: Hela whole cell lysate (20µg)
5. Overlay histogram showing Hela cells stained with TMAH-00699 (red line) at 1:50. The cells were fixed with 70% Ethylalcohol (18h) and then permeabilized with 0.3% Triton X-100 for 2 min. The cells were then incubated in 1x PBS /10% normal goat serum to block non-specific protein-protein interactions followed by primary antibody for 1 h at 4°C. The secondary antibody used was FITC goat anti-rabbit IgG (H+L) at 1/200 dilution for 1 h at 4°C. Control antibody (green line) was used under the same conditions. Acquisition of >10,000 events was performed.

Application:	ELISA,FCM,IF,IHC,IP
Recommended	IHC:1:50-1:200; IF:1:20-1:200; IP:1:200-1:1000.

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: Human LMNA
Antigen Species:	Human
Gene ID:	4000
Uniprot ID:	P02545
Synonyms:	FPLD;Lamin A/C like 1;Lamin A;autosomal dominant;Cardiomyopathy dilated 1A;Renal carcinoma antigen NY REN 32;Lamin A/C;LFP;CDDC;CMD1A;Lamin;PRO1;FPLD2;CDCD1;LMNL1; 70 kDa lamin;LGMD1B;HGPS;LDP1;CMT2B1;EMD2;Lamin C;IDC;Renal carcinoma antigen NYREN32;LMN A;FPL;Prelamin A/C;Limb girdle muscular dystrophy 1B;LMN C;LMNC;LMN 1
Biology Area:	Cell Biology

Research Background

Lamins are components of the nuclear lamina, a fibrous layer on the nucleoplasmic side of the inner nuclear membrane, which is thought to provide a framework for the nuclear envelope and may also interact with chromatin. Lamin A and C are present in equal amounts in the lamina of mammals. Recruited by DNA repair proteins XRCC4 and IFFO1 to the DNA double-strand breaks (DSBs) to prevent chromosome translocation by immobilizing broken DNA ends. Plays an important role in nuclear assembly, chromatin organization, nuclear membrane and telomere dynamics. Required for normal development of peripheral nervous system and skeletal muscle and for muscle satellite cell proliferation. Required for osteoblastogenesis and bone formation. Also prevents fat infiltration of muscle and bone marrow, helping to maintain the volume and strength of skeletal muscle and bone. Required for cardiac homeostasis. Prelamin-A/C can accelerate smooth muscle cell senescence. It acts to disrupt mitosis and induce DNA damage in vascular smooth muscle cells (VSMCs), leading to mitotic failure, genomic instability, and premature senescence.

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