

# Lamin A/C (A-5): sc-398927

## BACKGROUND

A unique family of cysteine proteases has been described that differs in sequence, structure and substrate specificity from any previously described protease family. This family, termed Ced-3/ICE, is comprised of ICE, CPP32, ICH-1/Nedd-2, Tx, Mch2, Mch3 (ICE-LAP3 or CMH-1), Mch4 and ICE-LAP6. CED-3/ICE family members function as key components of the apoptotic machinery and act to destroy specific target proteins which are critical to cellular longevity. Nuclear Lamins are critical to maintaining the integrity of the nuclear envelope and cellular morphology. The nuclear Lamin A is cleaved by Mch2, but not CPP32. Nuclear Lamin B is fragmented as a consequence of apoptosis by an unidentified member of the ICE family. Lamin C is a splice variant of Lamin A, differing only at the carboxy-terminus. Lamins A and C are identical for the first 566 amino acids, with Lamin C differing only in six unique carboxy-terminal amino acids.

## CHROMOSOMAL LOCATION

Genetic locus: LMNA (human) mapping to 1q22; Lmna (mouse) mapping to 3 F1.

## SOURCE

Lamin A/C (A-5) is a mouse monoclonal antibody raised against amino acids 231-340 mapping within an internal region of Lamin A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

Lamin A/C (A-5) is recommended for detection of Lamin A/C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Lamin A/C siRNA (h): sc-35776, Lamin A/C siRNA (m): sc-29385, Lamin A/C shRNA Plasmid (h): sc-35776-SH, Lamin A/C shRNA Plasmid (m): sc-29385-SH, Lamin A/C shRNA (h) Lentiviral Particles: sc-35776-V and Lamin A/C shRNA (m) Lentiviral Particles: sc-29385-V.

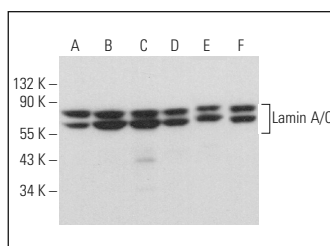
Molecular Weight of Lamin A/C: 69/62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or Lamin A (h): 293T Lysate: sc-177452.

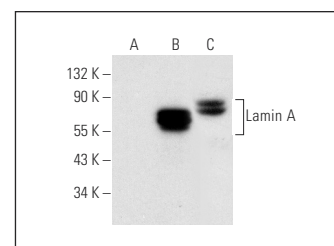
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Lamin A/C (A-5): sc-398927. Western blot analysis of Lamin A/C expression in NIH/3T3 (A), U-251-MG (B), C6 (C), Sol8 (D) and A-10 (E) whole cell lysates and HeLa nuclear extract (F).



Lamin A/C (A-5): sc-398927. Western blot analysis of Lamin A expression in non-transfected 293T: sc-117752 (A), human Lamin A transfected 293T: sc-177452 (B) and HeLa (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Ishikado, A., et al. 2013. 4-hydroxy hexenal derived from docosahexaenoic acid protects endothelial cells via Nrf2 activation. PLoS ONE 8: e69415.
- Belvedere, R., et al. 2016. Annexin A1 contributes to pancreatic cancer cell phenotype, behaviour and metastatic potential independently of formyl peptide receptor pathway. Sci. Rep. 6: 29660.
- Espadas-Álvarez, H., et al. 2021. TRPV4 activity regulates nuclear Ca<sup>2+</sup> and transcriptional functions of β-catenin in a renal epithelial cell model. J. Cell. Physiol. 236: 3599-3614.
- Rogerson, C., et al. 2021. Akt1-associated actomyosin remodelling is required for nuclear lamina dispersal and nuclear shrinkage in epidermal terminal differentiation. Cell Death Differ. 28: 1849-1864.
- Hernández-Guzmán, C., et al. 2021. *Zonula occludens 2* and cell-cell contacts are required for normal nuclear shape in epithelia. Cells 10: 2568.
- Tong, S., et al. 2022. Inhibition of interferon-γ-stimulated melanoma progression by targeting neuronal nitric oxide synthase (nNOS). Sci. Rep. 12: 1701.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



See **Lamin A/C (E-1): sc-376248** for Lamin A/C antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.