SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin A/C (E-1): sc-376248

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

REFERENCES

1. McKeon, F.D., et al. 1986. Homologies in both primary and secondary structure between nuclear envelope and intermediate filament proteins. Nature 319: 463-468.
2. Fisher, D.Z., et al. 1986. cDNA sequencing of nuclear Lamins A and C reveals primary and secondary structure homology to intermediate filament proteins. Proc. Natl. Acad. Sci. USA 83: 6450-6454.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin A/C (E-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Lamin A/C of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Lamin A/C (E-1) is available conjugated to agarose (sc-376248 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376248 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376248 PE), fluorescein (sc-376248 FITC), Alexa Fluor® 488 (sc-376248 AF488), Alexa Fluor® 546 (sc-376248 AF546), Alexa Fluor® 594 (sc-376248 AF594) or Alexa Fluor® 647 (sc-376248 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376248 AF680) or Alexa Fluor® 790 (sc-376248 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376248 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

Lamin A/C (E-1) is recommended for detection of Lamin A and Lamin 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

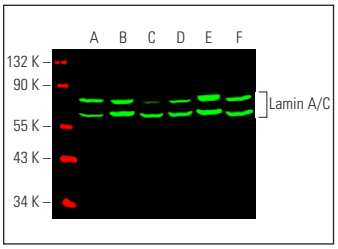
Lamin A/C (E-1) is also recommended for detection of Lamin A and Lamin C in additional species, including equine, canine, bovine and porcine.

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.

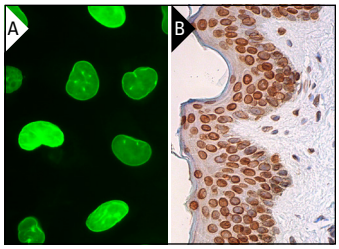
Molecular Weight of Lamin A/C: 69/62 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, HeLa whole cell lysate: sc-2200 or C6 whole cell lysate: sc-364373.

DATA



Lamin A/C (E-1) Alexa Fluor® 680: sc-376248 AF680. Direct near-infrared western blot analysis of Lamin A/C expression in HeLa (**A**), U-251-MG (**B**), NIH/3T3 (**C**), C6 (**D**), CCD-1064Sk (**E**) and Sol8 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 790: sc-516731.



Lamin A/C (E-1): sc-376248. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear envelope localization. Detected with m-IgG Fc BP-FITC: sc-533651 (**A**). Immunoperoxidase detection of Lamin A/C in formalin fixed, paraffin-embedded human skin tissue, showing nuclear envelope staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes. Detection reagent used: m-IgGκ BP-HRP: sc-516102 (**B**).

SELECT PRODUCT CITATIONS

1. Baarsma, H.A., et al. 2011. Activation of WNT/β-catenin signaling in pulmonary fibroblasts by TGF-β1 is increased in chronic obstructive pulmonary disease. PLoS ONE 6: e25450.
2. Trivedi, P., et al. 2023. Mitotic tethering enables inheritance of shattered micronuclear chromosomes. Nature 618: 1049-1056.
3. Yokota, Y., et al. 2024. Amiodarone inhibits the Toll-like receptor 3-mediated nuclear factor κB signaling pathway by blocking organelle acidification. Biochem. Biophys. Res. Commun. 708: 149801.

STORAGE

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