SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin A (C-3): sc-518013

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.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin A (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 580-601 near the C-terminus of Lamin A of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Lamin A (C-3) is available conjugated to agarose (sc-518013 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518013 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518013 PE), fluorescein (sc-518013 FITC), Alexa Fluor® 488 (sc-518013 AF488), Alexa Fluor® 546 (sc-518013 AF546), Alexa Fluor® 594 (sc-518013 AF594) or Alexa Fluor® 647 (sc-518013 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518013 AF680) or Alexa Fluor® 790 (sc-518013 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Lamin A (C-3) is recommended for detection of Lamin A 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.

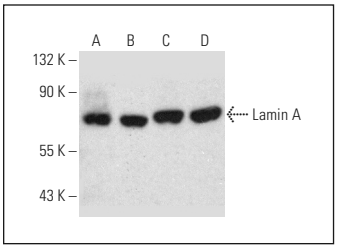
Molecular Weight of Lamin A: 69 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, HeLa whole cell lysate: sc-2200 or 3T3-L1 cell lysate: sc-2243.

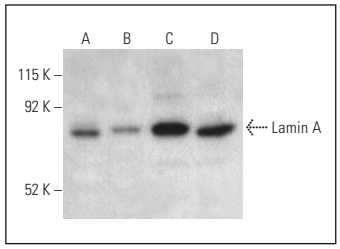
STORAGE

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

DATA



Lamin A (C-3): sc-518013. Western blot analysis of Lamin A expression in NIH/3T3 (**A**), 3T3-L1 (**B**), HeLa (**C**) and C6 (**D**) whole cell lysates.



Lamin A (C-3) HRP: sc-518013 HRP. Direct western blot analysis of Lamin A expression in NIH/3T3 (**A**), A549 (**B**) and HeLa (**C**) nuclear extracts and 3T3-L1 whole cell lysate (**D**).

SELECT PRODUCT CITATIONS

1. Fan, J., et al. 2019. CKIP-1 limits foam cell formation and inhibits atherosclerosis by promoting degradation of Oct-1 by REGγ. Nat. Commun. 10: 425.
2. An, L., et al. 2020. MST4 kinase suppresses gastric tumorigenesis by limiting YAP activation via a non-canonical pathway. J. Exp. Med. 217: e20191817.
3. De Meo, S., et al. 2020. SAMHD1 phosphorylation and cytoplasmic relocalization after human cytomegalovirus infection limits its antiviral activity. PLoS Pathog. 16: e1008855.
4. 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.
5. Shati, A.A. and El-Kott, A.F. 2021. Resolvin D1 protects against cadmium chloride-induced memory loss and hippocampal damage in rats: a comparison with docosahexaenoic acid. Hum. Exp. Toxicol. 40: S215-S232.
6. Alsabaani, N.A., et al. 2022. Maslinic acid protects against streptozotocin-induced diabetic retinopathy by activating Nrf2 and suppressing NFκB. J. Ophthalmol. 2022: 3044202.
7. Hsia, C.R., et al. 2022. Confined migration induces heterochromatin formation and alters chromatin accessibility. iScience 25: 104978.
8. Kono, Y., et al. 2022. Nucleoplasmic Lamin C rapidly accumulates at sites of nuclear envelope rupture with BAF and cGAS. J. Cell Biol. 221: e202201024.
9. Alagal, R.I., et al. 2023. The protection afforded by Berberine against chemotherapy-mediated nephropathy in rats involves regulation of the antioxidant axis. Basic Clin. Pharmacol. Toxicol. 132: 98-110.

RESEARCH USE

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

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