SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin A/C (636): sc-7292

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 2 unique carboxy-terminal amino acids.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin A/C (636) is a mouse monoclonal antibody raised against Lamin preparation of porcine 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. Also available as TransCruz reagent for ChIP application, sc-7292 X, 200 µg/0.1 ml.

Lamin A/C (636) is available conjugated to agarose (sc-7292 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-7292 PE) or Alexa Fluor® 594 (sc-7292 AF594), 200 µg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7292 AF680) or Alexa Fluor® 790 (sc-7292 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Lamin A/C (636) is recommended for detection of Lamin A and Lamin C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10^6 cells).

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.

Lamin A/C (636) X TransCruz antibody is recommended for ChIP assays.

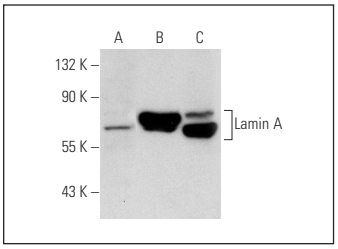
Molecular Weight of Lamin A/C: 69/62 kDa.

Positive Controls: Hs68 cell lysate: sc-2230, Lamin A (h2): 293T Lysate: sc-177453 or HeLa whole cell lysate: sc-2200.

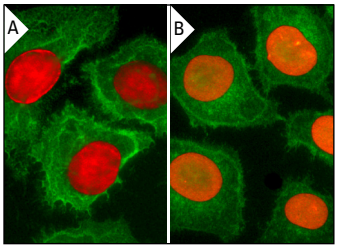
STORAGE

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 (636): sc-7292. Western blot analysis of Lamin A expression in non-transfected 293T: sc-117752 (**A**), human Lamin A transfected 293T: sc-177453 (**B**) and Hs68 (**C**) whole cell lysates.



Lamin A/C (636) PE: sc-7292 PE and HCAM (DF1485) Alexa Fluor® 488: sc-7297 AF488. Direct immunofluorescence staining of formalin-fixed HeLa cells showing nuclear envelope (red) and membrane (green) localization (**A**). Lamin A/C (636) PE: sc-7292 PE and CD47 (B6H12) FITC sc-12730 FITC. Direct immunofluorescence staining of formalin-fixed HeLa cells showing nuclear envelope (red) and membrane (green) localization (**B**).

SELECT PRODUCT CITATIONS

1. Gustin, K.E., et al. 2001. Effects of poliovirus infection on nucleo-cytoplasmic trafficking and nuclear pore complex composition. EMBO J. 20: 240-249.
2. Elbashir, S.M., et al. 2001. Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells. Nature 411: 494-498.
3. Afonso, P., et al. 2016. LMNA mutations resulting in lipodystrophy and HIV protease inhibitors trigger vascular smooth muscle cell senescence and calcification: role of ZMPSTE24 downregulation. Atherosclerosis 245: 200-211.
4. Moudry, P., et al. 2016. TOPBP1 regulates RAD51 phosphorylation and chromatin loading and determines PARP inhibitor sensitivity. J. Cell Biol. 212: 281-288.
5. Szymanska, E., et al. 2016. Impaired dynamin 2 function leads to increased AP-1 transcriptional activity through the JNK/c-Jun pathway. Cell. Signal. 28: 160-171.
6. Bernard, K., et al. 2017. NADPH oxidase 4 (Nox4) suppresses mitochondrial biogenesis and bioenergetics in lung fibroblasts via a nuclear factor erythroid-derived 2-like 2 (Nrf2)-dependent pathway. J. Biol. Chem. 292: 3029-3038.
7. Wiggan, O., et al. 2017. Cofilin regulates nuclear architecture through a myosin-II dependent mechanotransduction module. Sci. Rep. 7: 40953.
8. Chung, S., et al. 2017. Identification of EGF-NF-κB-FOXC1 signaling axis in basal-like breast cancer. Cell Commun. Signal. 15: 22.

RESEARCH USE

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