SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin A/C (H-110): sc-20681

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 ma-chinery 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 6 unique carboxy-terminal amino acids.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin A/C (H-110) is a rabbit polyclonal 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 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-20681 AC, 500 µg/0.25 ml agarose in 1 ml.

APPLICATIONS

Lamin A/C (H-110) is recommended for detection of Lamin A/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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Lamin A/C (H-110) is also recommended for detection of Lamin A/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: 69 kDa.

Molecular Weight of Lamin C: 62 kDa.

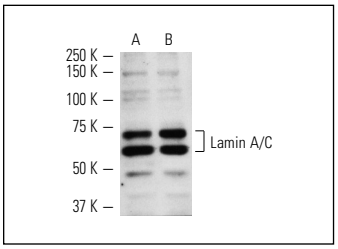
RESEARCH USE

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

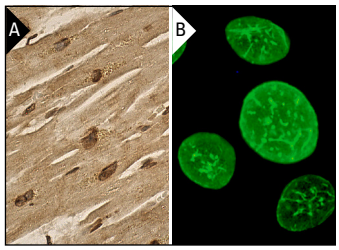
STORAGE

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 (H-110): sc-20681. Western blot analysis of Lamin A/C expression in WI 38 (**A**) and Hs68 (**B**) whole cell lysates.



Lamin A/C (H-110): sc-20681. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing nuclear envelope and cytoplasmic staining of myocytes (**A**). Immunofluorescence staining of methanol-fixed C32 cells showing nuclear envelope localization (**B**).

SELECT PRODUCT CITATIONS

1. Senda, T., et al. 2005. Visualization of the nuclear lamina in mouse anterior pituitary cells and immunocytochemical detection of Lamin A/C by quick-freeze freeze-substitution electron microscopy. J. Histochem. Cytochem. 53: 497-507.
2. Euskirchen, G.M., et al. 2011. Diverse roles and interactions of the SWI/SNF chromatin remodeling complex revealed using global approaches. PLoS Genet. 7: e1002008.
3. Ho, J.C., et al. 2011. Generation of induced pluripotent stem cell lines from 3 distinct laminopathies bearing heterogeneous mutations in lamin A/C. Aging 3: 380-390.
4. Boratko, A., et al. 2012. Cell cycle dependent association of EBP50 with protein phosphatase 2A in Endothelial cells. PloS ONE 7: e35595.
5. Bertrand, A.T., et al. 2012. DelK32-lamin A/C has abnormal location and induces incomplete tissue maturation and severe metabolic defects leading to premature death. Hum. Mol. Genet. 21: 1037-1048.
6. Poitelon Y, et al. 2012. Behavioral and molecular exploration of the AR-CMT2A mouse model Lmna (R298C/R298C). Neuromolecular Med. 14: 40-52.
7. Boratkó, A., et al. 2013. RACK1 is involved in endothelial barrier regulation via its two novel interacting partners. Cell Commun. Signal. 11: 2.