SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B1 (C-5): sc-365962

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, functions 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 as components of the nuclear lamina, a fibrous layer on the nucleoplasmic side of the inner nuclear membrane, which is thought to provide a framework for the nuclear envelope and may also interact with chromatin. B-type lamins undergo a series of modifications, such as farnesylation and phosphorylation. Increased phosphorylation of the lamins occurs before envelope disintegration and probably plays a role in regulating lamin associations. Nuclear Lamin B is fragmented as a consequence of apoptosis by an unidentified member of the ICE family.

REFERENCES

1. Moir, R.D., et al. 1995. The dynamic properties and possible functions of nuclear lamina. Int. Rev. Cytol. 162B: 141-182.
2. Duan, H., et al. 1996. ICE-LAP3, a novel mammalian homologue of the *Caenorhabditis elegans* cell death protein CED-3 is activated during FAS- and tumor necrosis factor-induced apoptosis. J. Biol. Chem. 271: 1621-1625.

CHROMOSOMAL LOCATION

Genetic locus: LMNB1 (human) mapping to 5q23.2; Lmnb1 (mouse) mapping to 18 D3.

SOURCE

Lamin B1 (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 559-584 at the C-terminus of Lamin B1 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 B1 (C-5) is available conjugated to agarose (sc-365962 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365962 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365962 PE), fluorescein (sc-365962 FITC), Alexa Fluor® 488 (sc-365962 AF488), Alexa Fluor® 546 (sc-365962 AF546), Alexa Fluor® 594 (sc-365962 AF594) or Alexa Fluor® 647 (sc-365962 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365962 AF680) or Alexa Fluor® 790 (sc-365962 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365962 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 B1 (C-5) is recommended for detection of Lamin B1 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 B1 (C-5) is also recommended for detection of Lamin B1 in additional species, including canine.

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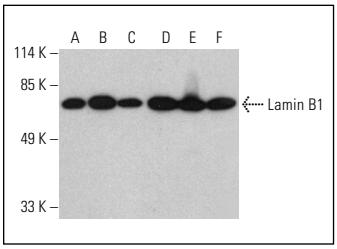
Suitable for use as control antibody for Lamin B1 siRNA (h): sc-29386, Lamin B1 siRNA (m): sc-35779, Lamin B1 shRNA Plasmid (h): sc-29386-SH, Lamin B1 shRNA Plasmid (m): sc-35779-SH, Lamin B1 shRNA (h) Lentiviral Particles: sc-29386-V and Lamin B1 shRNA (m) Lentiviral Particles: sc-35779-V.

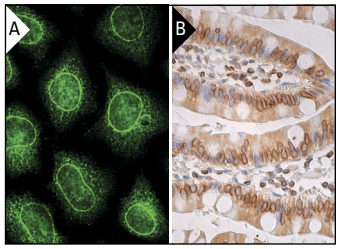
Molecular Weight of Lamin B1: 67 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Y79 cell lysate: sc-2240 or MCF7 whole cell lysate: sc-2206.

DATA



Lamin B1 (C-5) HRP: sc-365962 HRP. Direct western blot analysis of Lamin B1 expression in Hep G2 (**A**), MOLT-4 (**B**), HL-60 (**C**), Jurkat (**D**), Y79 (**E**) and MCF7 (**F**) whole cell lysates.



Lamin B (C-5): sc-365962. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear lamina localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear lamina and weak cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Han, X., et al. 2012. Silencing SOX2 induced mesenchymal-epithelial transition and its expression predicts liver and lymph node metastasis of CRC patients. PLoS ONE 7: e41335.
2. Oh, Y., et al. 2021. Insertion of gallic acid onto chitosan promotes the differentiation of osteoblasts from murine bone marrow-derived mesenchymal stem cells. Int. J. Biol. Macromol. 183: 1410-1418.
3. Tong, Y., et al. 2022. Hypoxia-induced NFATc3 deSUMOylation enhances pancreatic carcinoma progression. Cell Death Dis. 13: 413

STORAGE

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