SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B (M-20): sc-6217

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.

CHROMOSOMAL LOCATION

Genetic locus: LMNB1 (human) mapping to 5q23.2, LMNB2 (human) mapping to 19p13.3; Lmnb1 (mouse) mapping to 18 D3, Lmnb2 (mouse) mapping to 10 C1.

SOURCE

Lamin B (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Lamin B1 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6217 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Lamin B (M-20) is recommended for detection of Lamin B1 and, to a lesser extent, Lamin B2 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Lamin B: 67 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

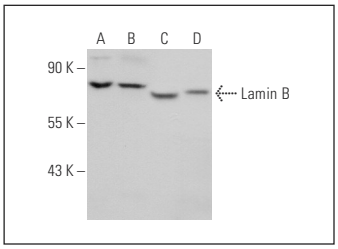
STORAGE

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

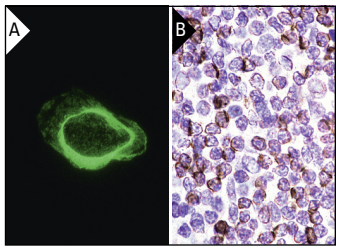
RESEARCH USE

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

DATA



Lamin B (M-20): sc-6217. Western blot analysis of Lamin B expression in HeLa (**A**), Jurkat (**B**), Hep G2 (**C**) and Caco-2 (**D**) whole cell lysates.



Lamin B (M-20): sc-6217. Immunofluorescence staining of methanol-fixed Jurkat cells showing staining of nuclear lamina (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human tonsil showing localization to the nuclear lamina (**B**).

SELECT PRODUCT CITATIONS

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3. Marzano, V., et al. 2012. Proteomic profiling of ATM kinase proficient and deficient cell lines upon blockage of proteasome activity. J. Proteomics 75: 4632-4646.
4. Ranjbar, S., et al. 2012. Regulation of Mycobacterium tuberculosis-dependent HIV-1 transcription reveals a new role for NFAT5 in the toll-like receptor pathway. PLoS Pathog. 8: e1002620.
5. Sundvall, M., et al. 2012. Protein inhibitor of activated STAT3 (PIAS3) protein promotes SUMOylation and nuclear sequestration of the intracellular domain of ErbB4 protein. J. Biol. Chem. 287: 23216-23226.
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8. Garcia-Yague, A.J., et al. 2013. Nuclear import and export signals control the subcellular localization of Nurr1 in response to oxidative stress. J. Biol. Chem. 288: 5506-5517.
9. Lu, J., et al. 2013. Interferon regulatory factor 3 is a negative regulator of pathological cardiac hypertrophy. Basic Res. Cardiol. 108: 326.