SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B2 (H-75): sc-134477

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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 lamins. 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.
3. Fernandes-Alnemri, T.F., et al. 1996. *In vitro* activation of CPP32 and Mch3 by Mch4, a novel human apoptotic Cysteine protease containing two FADD-like domains. Proc. Natl. Acad. Sci. USA 93: 7464-7469.
4. Duan, H., et al. 1996. ICE-LAP6, a novel member of the ICE/Ced-3 gene family, is activated by the cytotoxic T cell protease granzyme B. J. Biol. Chem. 271: 16720-16724.
5. Rao, L., et al. 1996. Lamin proteolysis facilitates nuclear events during apoptosis. J. Cell Biol. 135: 1441-1455.
6. Takahashi, A., et al. 1996. Cleavage of Lamin A by Mch2 α but not CPP32: multiple IL-1β-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis. Proc. Natl. Acad. Sci. USA 93: 8395-8400.

CHROMOSOMAL LOCATION

Genetic locus: LMNB2 (human) mapping to 19p13.3; Lmnb2 (mouse) mapping to 10 C1.

SOURCE

Lamin B2 (H-75) is a rabbit polyclonal antibody raised against amino acids 101-175 mapping near the N-terminus of Lamin B2 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.

RESEARCH USE

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

APPLICATIONS

Lamin B2 (H-75) is recommended for detection of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

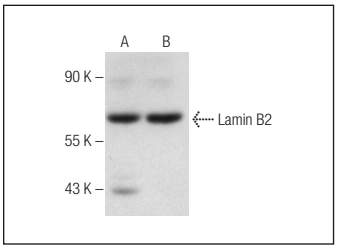
Lamin B2 (H-75) is also recommended for detection of Lamin B2 in additional species, including canine and bovine.

Suitable for use as control antibody for Lamin B2 siRNA (h): sc-61885, Lamin B2 siRNA (m): sc-61886, Lamin B2 shRNA Plasmid (h): sc-61885-SH, Lamin B2 shRNA Plasmid (m): sc-61886-SH, Lamin B2 shRNA (h) Lentiviral Particles: sc-61885-V and Lamin B2 shRNA (m) Lentiviral Particles: sc-61886-V.

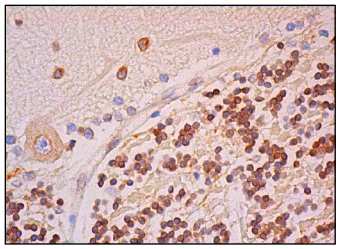
Molecular Weight of Lamin B2: 67 kDa.

Positive Controls: Ramos cell lysate: sc-2216, HL-60 whole cell lysate: sc-2209 or Jurkat whole cell lysate: sc-2204.

DATA



Lamin B2 (H-75): sc-134477. Western blot analysis of Lamin B2 expression in Jurkat (**A**) and Ramos (**B**) whole cell lysates.



Lamin B2 (H-75): sc-134477. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear envelope staining of Purkinje cells, cells in granular layer and cells in molecular layer.

SELECT PRODUCT CITATIONS

1. Welham, N.V., et al. 2013. Proteomic analysis of a decellularized human vocal fold mucosa scaffold using 2D electrophoresis and high-resolution mass spectrometry. Biomaterials 34: 669-676.
2. Vakilzadeh, G., et al. 2014. Protective effect of a cAMP analogue on behavioral deficits and neuropathological changes in cuprizone model of demyelination. Mol. Neurobiol. E-Published.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.