SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B2 (F-8): sc-377379

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. β-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.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin B2 (F-8) is a mouse monoclonal 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Lamin B2 (F-8) is available conjugated to agarose (sc-377379 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377379 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377379 PE), fluorescein (sc-377379 FITC), Alexa Fluor® 488 (sc-377379 AF488), Alexa Fluor® 546 (sc-377379 AF546), Alexa Fluor® 594 (sc-377379 AF594) or Alexa Fluor® 647 (sc-377379 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377379 AF680) or Alexa Fluor® 790 (sc-377379 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

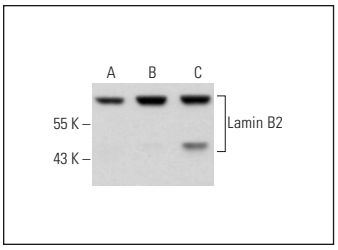
Lamin B2 (F-8) is recommended for detection of Lamin B2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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).

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.

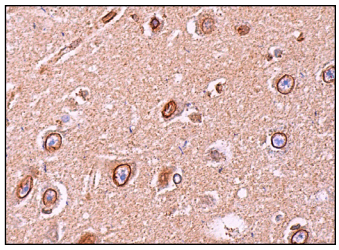
Molecular Weight of Lamin B2: 67 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, Jurkat whole cell lysate: sc-2204 or Hep G2 cell lysate: sc-2227.

DATA



Lamin B2 (F-8): sc-377379. Western blot analysis of Lamin B2 expression in Jurkat (**A**), HEL 92.1.7 (**B**) and Hep G2 (**C**) whole cell lysates.



Lamin B2 (F-8): sc-377379. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing nuclear envelope staining of neuronal cells and nuclear staining of glial cells.

SELECT PRODUCT CITATIONS

1. Junk, D.J., et al. 2017. Oncostatin M promotes cancer cell plasticity through cooperative Stat3-Smad3 signaling. Oncogene 36: 4001-4013.
2. Jantaree, P., et al. 2022. USP48 and A20 synergistically promote cell survival in *Helicobacter pylori* infection. Cell. Mol. Life Sci. 79: 461.
3. Yang, Y., et al. 2022. A lamin family-based signature predicts prognosis and immunotherapy response in hepatocellular carcinoma. J. Immunol. Res. 2022: 4983532.

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.

PROTOCOLS

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