SANTA CRUZ BIOTECHNOLOGY, INC.

Lamin B2 (X223): sc-56147

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

Lamin B2 (X223) is a mouse monoclonal antibody raised against full length native Lamin B2 of *Xenopus laevis* origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.5% stabilizer protein.

APPLICATIONS

Lamin B2 (X223) is recommended for detection of Lamin B2 in XLKE-A6 cells of mouse, rat, human, *Xenopus* and bovine origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:10-1:200).

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.

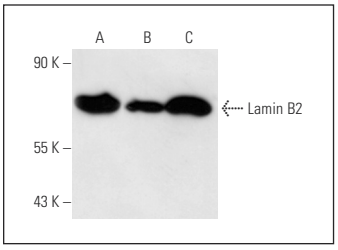
Molecular Weight of Lamin B2: 67 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, NTERA-2 cl.D1 cell lysate or Lamin B2 (m): 293T Lysate: sc-121281.

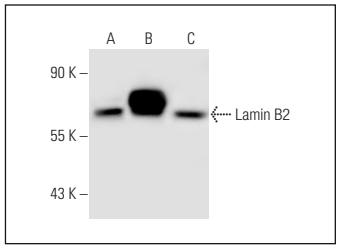
STORAGE

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

DATA



Lamin B2 (X223): sc-56147. Western blot analysis of Lamin B2 expression in U-2 OS (**A**), HL-60 (**B**) and NTERA-2 cl.D1 (**C**) whole cell lysates.



Lamin B2 (X223): sc-56147. Western blot analysis of Lamin B2 expression in non-transfected 293T: sc-117752 (**A**), mouse Lamin B2 transfected 293T: sc-121281 (**B**) and HL-60 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Tang, C.W., et al. 2008. The integrity of a Lamin-B1-dependent nucleoskeleton is a fundamental determinant of RNA synthesis in human cells. J. Cell Sci. 121: 1014-1024.
2. Mikami-Terao, Y., et al. 2009. Antitumor activity of TMPyP4 interacting G-quadruplex in retinoblastoma cell lines. Exp. Eye Res. 89: 200-208.
3. Saad, F.A., et al. 2010. Intracellular lysyl oxidase: effect of a specific inhibitor on nuclear mass in proliferating cells. Biochem. Biophys. Res. Commun. 396: 944-949.
4. Choudhury, M.G. and Saha, N. 2012. Influence of environmental ammonia on the production of nitric oxide and expression of inducible nitric oxide synthase in the freshwater air-breathing catfish *(Heteropneustes fossilis).* Aquat. Toxicol. 116-117: 43-53.
5. Akiyama, M., et al. 2013. Telomerase activation as a repair response to radiation-induced DNA damage in Y79 retinoblastoma cells. Cancer Lett. 340: 82-87.
6. Eibauer, M., et al. 2015. Structure and gating of the nuclear pore complex. Nat. Commun. 6: 7532.
7. Soltys, D.T., et al. 2015. Effects of post mortem interval and gender in DNA base excision repair activities in rat brains. Mutat. Res. 776: 48-53.
8. Dubinska-Magiera, M., et al. 2016. *Xenopus* LAP2β protein knockdown affects location of Lamin B and nucleoporins and has effect on assembly of cell nucleus and cell viability. Protoplasma 253: 943-956.
9. Mori, M.P., et al. 2017. Lack of XPC leads to a shift between respiratory complexes I and II but sensitizes cells to mitochondrial stress. Sci. Rep. 7: 155.

RESEARCH USE

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