

# Lamin A/C (JoL3): sc-56140

## 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, is comprised of ICE, CPP32, ICH-1/Nedd-2, Tx, Mch2, Mch3 (ICE-LAP3 or CMH-1), Mch4 and ICE-LAP6. CED-3/ICE family members function 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. The nuclear Lamin A is cleaved by Mch2, but not CPP32. Nuclear Lamin B is fragmented as a consequence of apoptosis by an unidentified member of the ICE family. Lamin C is a splice variant of Lamin A, differing only at the carboxy-terminus. Lamins A and C are identical for the first 566 amino acids, with Lamin C differing only in six unique carboxy-terminal amino acids.

## CHROMOSOMAL LOCATION

Genetic locus: LMNA (human) mapping to 1q22; Lmna (mouse) mapping to 3 F1.

## SOURCE

Lamin A/C (JoL3) is a mouse monoclonal antibody raised against full length Lamin A/C of human origin.

## PRODUCT

Each vial contains 500 µl culture supernatant containing IgG<sub>1</sub> with < 0.1% sodium azide.

## APPLICATIONS

Lamin A/C (JoL3) is recommended for detection of Lamin A and Lamin C on dermal fibroblasts of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [1-2 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 A/C siRNA (h): sc-35776, Lamin A/C siRNA (m): sc-29385, Lamin A/C shRNA Plasmid (h): sc-35776-SH, Lamin A/C shRNA Plasmid (m): sc-29385-SH, Lamin A/C shRNA (h) Lentiviral Particles: sc-35776-V and Lamin A/C shRNA (m) Lentiviral Particles: sc-29385-V.

Molecular Weight of Lamin A/C: 69/62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hs68 + AP cell lysate: sc-24706 or CCD-1064Sk cell lysate: sc-2263.

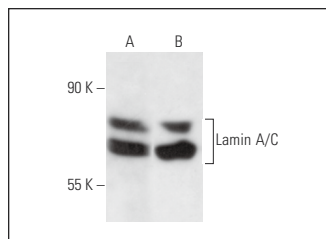
## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## RESEARCH USE

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

## DATA



Lamin A/C (JoL3): sc-56140. Western blot analysis of Lamin A/C expression in HeLa (A) and AP treated Hs68 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Hafeez, B.B., et al. 2008. A dietary anthocyanidin delphinidin induces apoptosis of human prostate cancer PC3 cells *in vitro* and *in vivo*: involvement of nuclear factor-κB signaling. *Cancer Res.* 68: 8564-8572.
2. Debald, M., et al. 2011. Identification of specific nuclear structural protein alterations in human breast cancer. *J. Cell. Biochem.* 112: 3176-3184.
3. Zaidi, A.H., et al. 2013. Smoothed inhibition leads to decreased proliferation and induces apoptosis in esophageal adenocarcinoma cells. *Cancer Invest.* 31: 480-489.
4. Debald, M., et al. 2013. Specific expression of k63-linked ubiquitination of calmodulin-like protein 5 in breast cancer of premenopausal patients. *J. Cancer Res. Clin. Oncol.* 139: 2125-2132.
5. Hou, J., et al. 2014. Hepatic RIG-I predicts survival and interferon-α therapeutic response in hepatocellular carcinoma. *Cancer Cell* 25: 49-63.
6. Sin, Y.Y., et al. 2015. Small heat shock protein 20 (Hsp20) facilitates nuclear import of protein kinase D1 (PKD1) during cardiac hypertrophy. *Cell Commun. Signal.* 13: 16.
7. Nakayama, R., et al. 2016. Preclinical activity of selinexor, an inhibitor of XPO1, in sarcoma. *Oncotarget* 7: 16581-16592.
8. Akpinar, G., et al. 2017. Proteomics analysis of tissue samples reveals changes in mitochondrial protein levels in parathyroid hyperplasia over adenoma. *Cancer Genomics Proteomics* 14: 197-211.
9. Mazzer, L., et al. 2019. Functional interplay between NIK and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. *Haematologica* 104: 2465-2481.



See **Lamin A/C (E-1): sc-376248** for Lamin A/C antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488, 546, 594, 647, 680 and 790.