

Lamin A (133A2): sc-56137

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 (133A2) is a mouse monoclonal antibody raised against partially purified recombinant Lamin A of human origin.

PRODUCT

Each vial contains 50 µg IgG₃ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Lamin A (133A2) is recommended for detection of Lamin A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells); non cross-reactive with Lamin C.

Lamin A (133A2) is also recommended for detection of Lamin A in additional species, including bovine and canine.

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: 69 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, Hs68 cell lysate: sc-2230 or FHs 173We cell lysate: sc-2417.

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.

SELECT PRODUCT CITATIONS

- Sarir, H., et al. 2010. IL-8 production by macrophages is synergistically enhanced when cigarette smoke is combined with TNF- α . *Biochem. Pharmacol.* 79: 698-705.
- Han, C., et al. 2010. Integrin CD11b negatively regulates TLR-triggered inflammatory responses by activating Syk and promoting degradation of MyD88 and TRIF via Cbl-b. *Nat. Immunol.* 11: 734-742.
- Zhao, Q., et al. 2010. Wogonin potentiates the antitumor effects of low dose 5-fluorouracil against gastric cancer through induction of apoptosis by down-regulation of NF κ B and regulation of its metabolism. *Toxicol. Lett.* 197: 201-210.
- Liu, L., et al. 2012. Influenza A Virus induces interleukin-27 through cyclooxygenase-2 and protein kinase A signaling. *J. Biol. Chem.* 287: 11899-11910.
- Wendl, J., et al. 2012. Immunocytochemical localization of cytoplasmic and nuclear intermediate filaments in the bovine ovary during folliculogenesis. *Anat. Histol. Embryol.* 41: 190-201.
- Xia, M., et al. 2013. Histone methyltransferase ASH1L suppresses interleukin-6 production and inflammatory autoimmune diseases by inducing the ubiquitin-editing enzyme A20. *Immunity* 39: 470-481.
- Li, C., et al. 2014. LFG-500 inhibits the invasion of cancer cells via down-regulation of PI3K/Akt/NF κ B signaling pathway. *PLoS ONE* 9: e91332.
- Liu, J., et al. 2014. Rhbdd3 controls autoimmunity by suppressing the production of IL-6 by dendritic cells via K27-linked ubiquitination of the regulator NEMO. *Nat. Immunol.* 15: 612-622.
- Cherry, E.M., et al. 2015. Tumor necrosis factor-like weak inducer of apoptosis (TWEAK) promotes glioma cell invasion through induction of NF κ B-inducing kinase (NIK) and noncanonical NF κ B signaling. *Mol. Cancer* 14: 9.
- Chan, L.P., et al. 2017. IL-8 promotes inflammatory mediators and stimulates activation of p38 MAPK/ERK-NF κ B pathway and reduction of JNK in HNSCC. *Oncotarget* 8: 56375-56388.
- Tian, Y., et al. 2017. Minocycline attenuates sevoflurane-induced cell injury via activation of Nrf2. *Int. J. Mol. Med.* 39: 869-878.
- Shao, D., et al. 2018. Glucose promotes cell growth by suppressing branched-chain amino acid degradation. *Nat. Commun.* 9: 2935.
- Zhang, L., et al. 2019. Silence of lncRNA CHRf protects H9c2 cells against lipopolysaccharide-induced injury via up-regulating microRNA-221. *Exp. Mol. Pathol.* 107: 43-50.

CONJUGATES

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