SANTA CRUZ BIOTECHNOLOGY, INC.

# cleaved Lamin A/C (h229): sc-25104

## BACKGROUND

Nuclear lamins are critical to maintaining the integrity of the nuclear envelope and cellular morphology. Lamin cleavage, an important event in the nuclear apoptotic process, is mediated by the protease caspase 6. Expression of uncleavable mutant lamins cause significant delays in the onset of chromatin condensation and nuclear shrinkage during apoptosis. If present, lamin A must be cleaved in order for the chromosomal DNA to undergo complete condensation. Lamin A/C is cleaved by capase 6 at Asp230, adjacent to the sequence VEID. Lamins A and C are identical for the first 566 amino acids, with lamin C differing only in 6 unique carboxy-terminal amino acids. The human LMNA gene maps to 1q22.

## REFERENCES


1. McKeon, F.D., Kirschner, M.W. and Caput, D. 1986. Homologies in both primary and secondary structure between nuclear envelope and intermediate filament proteins. Nature 319: 463-468.
2. Fisher, D.Z., Chaudhary, N. and Blobel, G. 1986. cDNA sequencing of nuclear lamins A and C reveals primary and secondary structure homology to inter-mediate filament proteins. Proc. Natl. Acad. Sci. USA 83: 6450-6454.
3. Moir, R.D., Spann, T.P. and Goldman, R.D. 1995. The dynamic properties and possible functions of nuclear lamins. Int. Rev. Cytol. 162B: 141-182.
4. Rao, L., Perez, D. and White, E. 1996. Lamin proteolysis facilitates nuclear events during apoptosis. J. Cell. Biol. 135: 1441-1455.
5. Wydner, K.L. McNeil, J.A. Lin, F. Worman, H.J. and Lawrence, J.B. 1996. Chromosomal assignment of human nuclear envelope protein genes LMNA, LMNB1, and LBR by fluorescence *in situ* hybridization. Genomics 32: 474-478.
6. Ruchaud, S., Korfali, N., Villa, P., Kottke, T.J., Dingwall, C., Kaufmann, S.H. and Earnshaw, W.C. 2002. Caspase-6 gene disruption reveals a requirement for lamin A cleavage in apoptotic chromatin condensation. EMBO J. 8: 1967-1977.


## CHROMOSOMAL LOCATION

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

## SOURCE

cleaved Lamin A/C (h229) is a goat polyclonal antibody raised against a short amino acid sequence containing the neoepitope at Asp 229 of Lamin A/C 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.

Blocking peptide available for competition studies, sc-25104 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

cleaved Lamin A/C (h229) is recommended for detection of C-terminal cleavage product of Lamin A/C 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with full length lamin A or lamin C.

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 cleaved Lamin A/C: 47/37 kDa.

Positive Controls: mouse heart extract: sc-2254.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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 or our catalog for detailed protocols and support products.