

# Acinus (2005C3a): sc-81177

## BACKGROUND

The complex process of apoptosis requires the systematic activation of cysteine proteases, the condensation of chromatin and the fragmentation of DNA. Chromatin condensation occurs following the proteolytic activation of the caspases and the subsequent induction of the nuclear protein designated apoptotic chromatin condensation inducer in the nucleus or Acinus. Various isoforms of Acinus are generated from alternative splicing patterns, and they include proteins designated AcinusL, AcinusS' and AcinusS, respectively. Acinus is ubiquitously expressed and predominantly localized to the nucleus where it associates with both the nuclear membrane and the nucleoplasm. Combined *in vitro* and *in vivo* studies indicate that during apoptosis caspase-3 cleaves the carboxy-terminus of Acinus to generate the soluble 23 kDa protein, p23 that is essential for inducing chromatin condensation.

## REFERENCES

1. Kass, G.E., et al. 1996. Chromatin condensation during apoptosis requires ATP. *Biochem. J.* 318: 749-752.
2. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. *DNA Res.* 5: 169-176.
3. Sakahira, H., et al. 1999. Apoptotic nuclear morphological change without DNA fragmentation. *Curr. Biol.* 9: 543-546.
4. Porter, A.G., et al. 1999. Emerging roles of caspase-3 in apoptosis. *Cell Death Differ.* 6: 99-104.
5. Samali, A., et al. 1999. Apoptosis: cell death defined by caspase activation. *Cell Death Differ.* 6: 495-496.
6. Sahara, S., et al. 1999. Acinus is a caspase-3-activated protein required for apoptotic chromatin condensation. *Nature* 401: 168-173.
7. Schwerk, C., et al. 2003. ASAP, a novel protein complex involved in RNA processing and apoptosis. *Mol. Cell. Biol.* 23: 2981-2990.

## CHROMOSOMAL LOCATION

Genetic locus: ACIN1 (human) mapping to 14q11.2.

## SOURCE

Acinus (2005C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of Acinus of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% BSA.

## 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.

## APPLICATIONS

Acinus (2005C3a) is recommended for detection of Acinus of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Acinus siRNA (h): sc-105033, Acinus shRNA Plasmid (h): sc-105033-SH and Acinus shRNA (h) Lentiviral Particles: sc-105033-V.

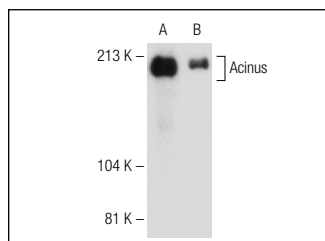
Molecular Weight of AcinusL: 220 kDa.

Molecular Weight of AcinusS: 98 kDa.

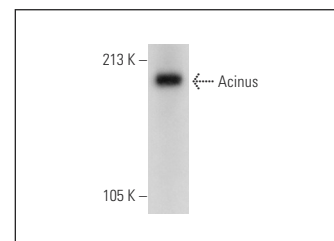
Molecular Weight of AcinusS': 94 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, K-562 nuclear extract: sc-2130 or HeLa nuclear extract: sc-2120.

## DATA



Acinus (2005C3a): sc-81177. Western blot analysis of Acinus expression in Jurkat (A) and K-562 (B) nuclear extracts.



Acinus (2005C3a): sc-81177. Western blot analysis of Acinus expression in HeLa nuclear extract.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.