SANTA CRUZ BIOTECHNOLOGY, INC.

AcinusS (N-10): sc-5435

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 Acinus (apoptotic chromatin condensation inducer in the nucleus). Various isoforms of Acinus, which are generated from alternative splicing patterns, include AcinusL, AcinusS and AcinusS'. 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 protein p23, which 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. Samali, A., et al.1999. Apoptosis: cell death defined by caspase activation. Cell Death Differ. 6: 495-496.
5. Sahara, S., et al. 1999. Acinus is a caspase-3-activated protein required for apoptotic chromatin condensation. Nature 401: 168-173.
6. Porter, A.G., et al. 1999. Emerging roles of caspase-3 in apoptosis. Cell Death Differ. 6: 99-104.
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

AcinusS (N-10) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AcinusS 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-5435 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

AcinusS (N-10) is recommended for detection of AcinusS of 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).

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.

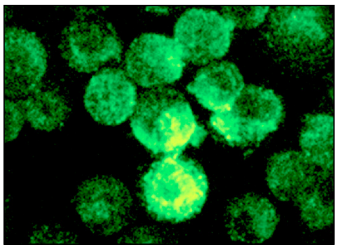
Molecular Weight of AcinusS': 94 kDa.

Positive Controls: A2058 whole cell lysate: sc-364178.

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.

DATA



AcinusS (N-10): sc-5435. Immunofluorescence staining of methanol-fixed Jurkat cells showing nuclear localization.

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.