SANTA CRUZ BIOTECHNOLOGY, INC.

Gelsolin (F-3): sc-271001

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The Power to Question

BACKGROUND

Gelsolin (also designated Actin-depolymerizing factor antibody, Brevin antibody, AGEL antibody, ADF antibody, Gelsolin (amyloidosis Finnish type) antibody, or amyloidosis Finnish type antibody), a protein of leukocytes, platelets and other cells, severs Actin filaments in the presence of submicromolar calcium, thereby isolating cytoplasmic Actin gels. A calcium-independent mechanism reverses the process. A Gelsolin variant with 23 more amino-terminal amino acids is a plasma component probably involved in the clearance of Actin, the most abundant human protein, from the circulation. It has been suggested that a single gene encodes both cell and plasma gelsolins. Gelsolin may be unique in that it is made for both secretion and intracytoplasmic location. Amino acid homology was identified between Gelsolin and the amyloid of the Finnish variety of amyloidosis. The amyloid in this disorder is antigenically and structurally related to Gelsolin. Gelsolin is the principal intracellular and extracellular Actin-severing protein. Gelsolin and Gc protein together constitute the extracellular Actin-scavenger system which prevents the toxic effects of Actin release into the extracellular space under circumstances of cell necrosis.

REFERENCES

1. Lind, S.E., et al. 1984. Human plasma Gelsolin binds to fibronectin. J. Biol. Chem. 259: 13262-13266.
2. Fernandes-Alnemri, T., et al. 1995. Mch3, a novel human apoptotic cysteine protease highly related to CPP32. Cancer Res. 55: 6045-6052.
3. Takahashi, A., et al. 1996. Cleavage of Lamin A by Mch2 a but not CPP32: multiple interleukin-1 β-converting enzyme-related proteases with distinct substrate recognition properties are active in apoptosis. Proc. Natl. Acad. Sci. USA 93: 8395-8400.
4. Rao, L., et al. 1996. Lamin proteolysis facilitates nuclear events during apoptosis. J. Cell Biol. 135: 1441-1455.
5. Liu, X., et al. 1997. DFF, a heterodimeric protein that functions downstream of caspase-3 to trigger DNA fragmentation during apoptosis. Cell 89: 175-184.
6. Salvesen, G.S., et al. 1997. Caspases: intracellular signaling by proteolysis. Cell 91: 443-446.
7. Kothakota, S., et al. 1997. Caspase-3-generated fragment of Gelsolin: effector of morphological change in apoptosis. Science 278: 294-298.

CHROMOSOMAL LOCATION

Genetic locus: GSN (human) mapping to 9q33.2.

SOURCE

Gelsolin (F-3) is a mouse monoclonal antibody raised against amino acids 596-665 mapping near the C-terminus of Gelsolin of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Gelsolin (F-3) is recommended for detection of plasma and cytoplasmic Gelsolin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 Gelsolin siRNA (h): sc-37330, Gelsolin shRNA Plasmid (h): sc-37330-SH and Gelsolin shRNA (h) Lentiviral Particles: sc-37330-V.

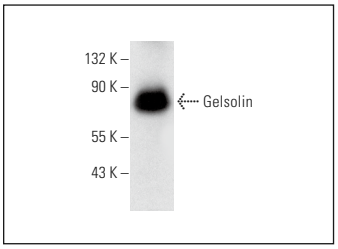
Molecular Weight of Gelsolin: 90 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, Raji whole cell lysate: sc-364236 or Ramos cell lysate: sc-2216.

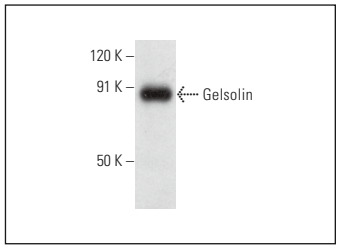
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Gelsolin (F-3): sc-271001. Western blot analysis of Gelsolin expression in Raji whole cell lysate.



Gelsolin (F-3): sc-271001. Western blot analysis of Gelsolin expression in Ramos whole cell lysate.

SELECT PRODUCT CITATIONS

1. Panis, C., et al. 2016. Early downregulation of acute phase proteins after doxorubicin exposition in patients with breast cancer. Tumour Biol. 37: 3775-3783.

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.