SANTA CRUZ BIOTECHNOLOGY, INC.

Gelsolin (N-19): sc-22600

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Gelsolin (also known as brevin, actin-depolymerizing factor or ADF), 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. The gene which encodes gelsolin maps to human chromosome 9q33.2 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 G_c 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 α 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; Gsn (mouse) mapping to 2 B.

SOURCE

Gelsolin (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Gelsolin of human origin.

STORAGE

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

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-22600 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Gelsolin (N-19) is recommended for detection of plasma and cytoplasmic Gelsolin 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).

Gelsolin (N-19) is also recommended for detection of plasma and cytoplasmic Gelsolin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Gelsolin siRNA (h): sc-37330, Gelsolin siRNA (m): sc-37331, Gelsolin shRNA Plasmid (h): sc-37330-SH, Gelsolin shRNA Plasmid (m): sc-37331-SH, Gelsolin shRNA (h) Lentiviral Particles: sc-37330-V and Gelsolin shRNA (m) Lentiviral Particles: sc-37331-V.

Molecular Weight of Gelsolin: 90 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207 or HISM cell lysate: sc-2229.

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.

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.