

# granzyme B (C-19): sc-1968

## BACKGROUND

Granzyme A and granzyme B are serine proteases that mediate apoptotic signaling in cytotoxic T lymphocytes (CTL) and natural killer (NK) cells. Both granzyme A and granzyme B are synthesized as inactive proenzymes, and they are stored within cytolytic granules and released by effector cells during degranulation. In activated CTLs, granzyme A and granzyme B are processed and activated by cathepsin C, and they then function to induce apoptosis by two distinct pathways. Granzyme B proteolytically cleaves and activates members of the caspase family of cysteine proteases, including caspase-3, caspase-6, caspase-7 and caspase-9. When cleaved, these caspases assemble into active holoenzymes that then mediate apoptosis through a defined proteolytic cascade involving nuclear lamins and PARP (poly ADP ribose polymerase). Granzyme A mediates the activation of apoptosis by inducing single-strand DNA breaks, membrane perturbation and nuclear condensations in an alternative pathway that is independent from caspase activation or the caspase proteolytic cascade.

## CHROMOSOMAL LOCATION

Genetic locus: GZMB (human) mapping to 14q12; Gzmb (mouse) mapping to 14 C3.

## SOURCE

granzyme B (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of granzyme B 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-1968 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

granzyme B (C-19) is recommended for detection of granzyme B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

granzyme B (C-19) is also recommended for detection of granzyme in additional species, including equine.

Suitable for use as control antibody for granzyme B siRNA (h): sc-35507, granzyme B siRNA (m): sc-35508, granzyme B shRNA Plasmid (h): sc-35507-SH, granzyme B shRNA Plasmid (m): sc-35508-SH, granzyme B shRNA (h) Lentiviral Particles: sc-35507-V and granzyme B shRNA (m) Lentiviral Particles: sc-35508-V.

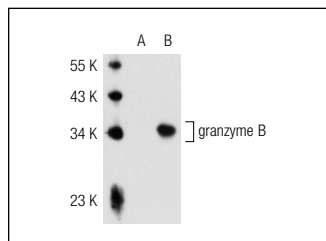
Molecular Weight of granzyme B: 32 kDa.

Positive Controls: granzyme B (h): 293T Lysate: sc-114114, CTLL-2 cell lysate: sc-2242 or HL-60 whole cell lysate: sc-2209.

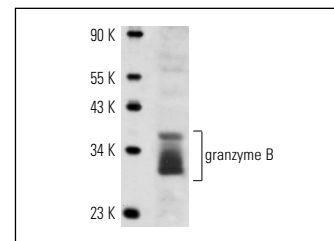
## STORAGE

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

## DATA



granzyme B (C-19): sc-1968. Western blot analysis of granzyme B expression in non-transfected: sc-117752 (A) and human granzyme B transfected: sc-114114 (B) 293T whole cell lysates.



granzyme B (C-19): sc-1968. Western blot analysis of granzyme B expression in CTLL-2 whole cell lysate.

## SELECT PRODUCT CITATIONS

- Zhao, J., et al. 2004. Secreted antibody/granzyme B fusion protein stimulates selective killing of HER2-overexpressing tumor cells. *J. Biol. Chem.* 279: 21343-21348.
- Lu, Y., et al. 2007. Immunological protection against HPV16 E7-expressing human esophageal cancer cell challenge by a novel HPV16-E6/E7 fusion protein based-vaccine in a Hu-PBL-SCID mouse model. *Biol. Pharm. Bull.* 30: 150-156.
- Aieli, S., et al. 2011. Rabbit anti-rat thymocyte immunoglobulin preserves renal function during ischemia/reperfusion injury in rat kidney transplantation. *Transpl. Int.* 24: 829-838.
- Pacheco-Tovar, D., et al. 2011. The caspase pathway as a possible therapeutic target in experimental pemphigus. *Autoimmune Dis.* 2011: 563091.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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



Try **granzyme B (2C5): sc-8022** or **granzyme B (GRB7): sc-73620**, our highly recommended monoclonal alternatives to granzyme B (C-19). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **granzyme B (2C5): sc-8022**.