SANTA CRUZ BIOTECHNOLOGY, INC.

granzyme M (A-10): sc-376799

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The granzyme family of proteins belong to the larger peptidase S1 family. Granzyme A and granzyme B are serine proteases that facilitate apoptotic signaling in cytotoxic T lymphocytes (CTL) and natural killer (NK) cells. Within the granules of activated CTLs, granzyme A and granzyme B are processed and converted to their active forms by the lysosomal cysteine protease cathepsin C. Once cleaved, these active proteases target distinct substrates for proteolysis, thereby mediating apoptosis through two different pathways. Granzyme H localizes to cytoplasmic granules of cytolytic T lymphocytes and is important for target cell lysis in cell-mediated immune responses. Granzyme K is a serine protease localizing to the granules of NK cells and cytotoxic T lymphocytes. Granzyme M (also designated NK cell granular protease, HU-Met-1 or met-1 serine protease) contains one peptidase S1 domain. Granzyme M is a Trypsin-fold serine protease that localizes to granules of large granular lymphocytes (NK cells) and cleaves peptide substrates after leucine, norleucine or methionine. This enzyme may play a role in target cell death induction by cytotoxic lymphocytes.

REFERENCES

1. Mahrus, S., et al. 2004. Granzyme M is a regulatory protease that inactivates proteinase inhibitor 9, an endogenous inhibitor of granzyme B. J. Biol. Chem. 279: 54275-54282.
2. Bade, B., et al. 2005. Differential expression of the granzymes A, K and M and perforin in human blood lymphocytes. Int. Immunol. 17: 1419-1428.

CHROMOSOMAL LOCATION

Genetic locus: GZMM (human) mapping to 19p13.3; Gzmm (mouse) mapping to 10 C1.

SOURCE

granzyme M (A-10) is a mouse monoclonal antibody raised against amino acids 71-140 mapping within an internal region of granzyme M of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

granzyme M (A-10) is available conjugated to agarose (sc-376799 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376799 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376799 PE), fluorescein (sc-376799 FITC), Alexa Fluor® 488 (sc-376799 AF488), Alexa Fluor® 546 (sc-376799 AF546), Alexa Fluor® 594 (sc-376799 AF594) or Alexa Fluor® 647 (sc-376799 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376799 AF680) or Alexa Fluor® 790 (sc-376799 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

granzyme M (A-10) is recommended for detection of granzyme M of mouse, rat and 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 granzyme M siRNA (h): sc-60761, granzyme M siRNA (m): sc-60762, granzyme M shRNA Plasmid (h): sc-60761-SH, granzyme M shRNA Plasmid (m): sc-60762-SH, granzyme M shRNA (h) Lentiviral Particles: sc-60761-V and granzyme M shRNA (m) Lentiviral Particles: sc-60762-V.

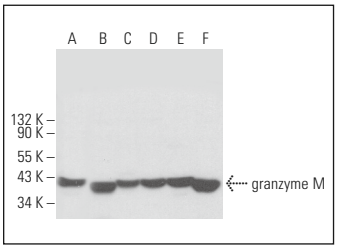
Molecular Weight of granzyme M: 33 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SP2/0 whole cell lysate: sc-364795 or Caki-1 cell lysate: sc-2224.

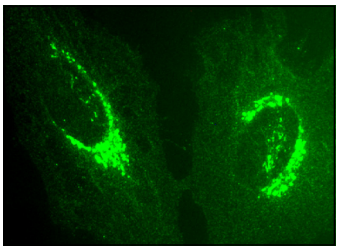
RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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



granzyme M (A-10): sc-376799. Western blot analysis of granzyme M expression in HeLa (**A**), SP2/0 (**B**), Caki-1 (**C**), CCRF-CEM (**D**), Jurkat (**E**) and MM-142 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



granzyme M (A-10): sc-376799. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Bulitta, B., et al. 2018. Proteomic definition of human mucosal-associated invariant T cells determines their unique molecular effector phenotype. Eur. J. Immunol. 48: 1336-1349.

RESEARCH USE

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