SANTA CRUZ BIOTECHNOLOGY, INC.

granzyme M (h): 293T Lysate: sc-114142

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.
3. Pao, L.I., et al. 2005. Functional analysis of granzyme M and its role in immunity to infection. J. Immunol. 175: 3235-3243.
4. Suck, G., et al. 2005. KHYG-1, a model for the study of enhanced natural killer cell cytotoxicity. Exp. Hematol. 33: 1160-1171.
5. Bots, M., et al. 2005. SPI-CI and SPI-6 cooperate in the protection from effector cell-mediated cytotoxicity. Blood 105: 1153-1161.
6. Bots, M., et al. 2006. Serpins prevent granzyme-induced death in a species-specific manner. Immunol. Cell Biol. 84: 79-86.

CHROMOSOMAL LOCATION

Genetic locus: GZMM (human) mapping to 19p13.3.

PRODUCT

granzyme M (h): 293T Lysate represents a lysate of human granzyme M transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

granzyme M (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive granzyme M antibodies. Recommended use: 10-20 µl per lane.

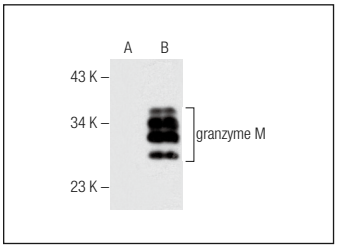
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

granzyme M (A-10): sc-376799 is recommended as a positive control antibody for Western Blot analysis of enhanced human granzyme M expression in granzyme M transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

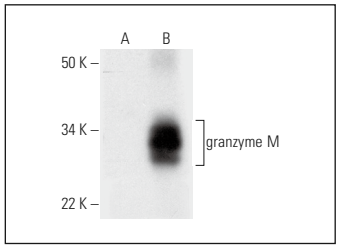
RECOMMENDED SUPPORT REAGENTS

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.

DATA



granzyme M (A-10): sc-376799. Western blot analysis of granzyme M expression in non-transfected: sc-117752 (**A**) and human granzyme M transfected: sc-114142 (**B**) 293T whole cell lysates.



granzyme M (D-11): sc-393375. Western blot analysis of granzyme M expression in non-transfected: sc-117752 (**A**) and human granzyme M transfected: sc-114142 (**B**) 293T whole cell lysates.

RESEARCH USE

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