

granzyme G (P-13): sc-103533

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. Granzyme H localizes to cytoplasmic granules of CTLs 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 CTLs. Granzyme M is a trypsin-fold serine protease that localizes to granules of NK cells and cleaves peptide substrates after leucine, norleucine or methionine. Granzyme D is a tryptase expressed on mature CTLs that cleaves Na-CBZ-L-lysine thiobenzyl ester. Granzyme G, also known as CTL serine protease 1, MCSP-1 or CTLA-7, is a serine protease also expressed on mature CTLs. It lies downstream of granzyme C and is upregulated by IL-5 and IL-2.

REFERENCES

- Jenne, D.E., Masson, D., Zimmer, M., Haefliger, J.A., Li, W.H. and Tschoop, J. 1990. Isolation and complete structure of the lymphocyte serine protease granzyme G, a novel member of the granzyme multigene family in murine cytolytic T lymphocytes. Evolutionary origin of lymphocyte proteases. *Biochemistry* 28: 7953-7961.
- Woodard, S.L., Fraser, S.A., Winkler, U., Jackson, D.S., Kam, C.M., Powers, J.C. and Hudig, D. 1998. Purification and characterization of lymphocyte chymase I, a granzyme implicated in perforin-mediated lysis. *J. Immunol.* 160: 4988-4993.
- Graham, C.M. and Thomas, D.B. 2004. Differential analysis of CD4⁺ Th memory clones with identical T-cell receptor (TCR)- $\alpha\beta$ rearrangement (non-transgenic), but distinct lymphokine phenotype, reveals diverse and novel gene expression. *Immunology* 113: 194-202.
- Revell, P.A., Grossman, W.J., Thomas, D.A., Cao, X., Behl, R., Ratner, J.A., Lu, Z.H. and Ley, T.J. 2005. Granzyme B and the downstream granzymes C and/or F are important for cytotoxic lymphocyte functions. *J. Immunol.* 174: 2124-2131.
- Salomonis, N., Cotte, N., Zambon, A.C., Pollard, K.S., Vranizan, K., Doniger, S.W., Dolganov, G. and Conklin, B.R. 2005. Identifying genetic networks underlying myometrial transition to labor. *Genome Biol.* 6: R12.
- Sutton, V.R., Waterhouse, N.J., Browne, K.A., Sedelies, K., Ciccone, A., Anthony, D., Koskinen, A., Mullbacher, A. and Trapani, J.A. 2007. Residual active granzyme B in cathepsin C-null lymphocytes is sufficient for perforin-dependent target cell apoptosis. *J. Cell Biol.* 176: 425-433.

CHROMOSOMAL LOCATION

Genetic locus: Gzmg (mouse) mapping to 14 C3.

STORAGE

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

PROTOCOLS

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

SOURCE

granzyme G (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of granzyme G of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103533 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

granzyme G (P-13) is recommended for detection of granzyme G of mouse 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); non cross-reactive with other granzyme family members.

Suitable for use as control antibody for granzyme G siRNA (m): sc-105414, granzyme G shRNA Plasmid (m): sc-105414-SH and granzyme G shRNA (m) Lentiviral Particles: sc-105414-V.

Molecular Weight of granzyme G: 27 kDa.

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.