

# granzyme K (GM6C3): sc-56125

## 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 and, thereby, mediate 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 (GMZK), also designated granzyme 3 or NK-Tryptase-2 (NK-TRYP-2), contains one peptidase S1 domain. Granzyme K is a serine protease localizing to the granules of natural killer cells and cytotoxic T lymphocytes. It is primarily expressed in thymus, lung, spleen and peripheral blood leukocytes.

## CHROMOSOMAL LOCATION

Genetic locus: GZMK (human) mapping to 5q11.2.

## SOURCE

granzyme K (GM6C3) is a mouse monoclonal antibody raised against granzyme K of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

granzyme K (GM6C3) is available conjugated to agarose (sc-56125 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-56125 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-56125 PE), fluorescein (sc-56125 FITC), Alexa Fluor® 488 (sc-56125 AF488), Alexa Fluor® 546 (sc-56125 AF546), Alexa Fluor® 594 (sc-56125 AF594) or Alexa Fluor® 647 (sc-56125 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-56125 AF680) or Alexa Fluor® 790 (sc-56125 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, granzyme K (GM6C3) is available conjugated to biotin (sc-56125 B), 200 µg/ml, for WB, IHC(P) and ELISA.

## APPLICATIONS

granzyme K (GM6C3) is recommended for detection of granzyme K transiently expressed on the cell surface of transfected BOSC cells as well as the native protein in peripheral blood mononuclear cells of human origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for granzyme K siRNA (h): sc-60759, granzyme K shRNA Plasmid (h): sc-60759-SH and granzyme K shRNA (h) Lentiviral Particles: sc-60759-V.

Molecular Weight of granzyme K: 28 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

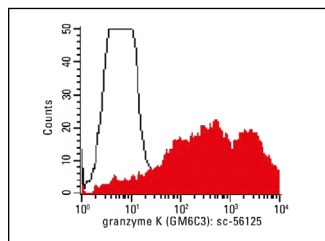
## RESEARCH USE

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

## STORAGE

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

## DATA



granzyme K (GM6C3): sc-56125. Indirect FCM analysis of BOSC23 cells stained with granzyme K (GM6C3), followed by PE-conjugated anti-mouse IgG. Black line histogram represents the control transfectant, irrelevant protein.

## SELECT PRODUCT CITATIONS

- Harari, A., et al. 2009. Distinct profiles of cytotoxic granules in memory CD8 T cells correlate with function, differentiation stage, and antigen exposure. *J. Virol.* 83: 2862-2871.
- Achour, A., et al. 2014. Expansion of CMV-mediated NKG2C<sup>+</sup> NK cells associates with the development of specific de novo malignancies in liver-transplanted patients. *J. Immunol.* 192: 503-511.
- Baychelier, F., et al. 2015. Natural killer cell deficiency in patients with non-Hodgkin lymphoma after lung transplantation. *J. Heart Lung Transplant.* 34: 604-612.
- Kiniry, B.E., et al. 2018. Differential expression of CD8<sup>+</sup> T cell cytotoxic effector molecules in blood and gastrointestinal mucosa in HIV-1 infection. *J. Immunol.* 200: 1876-1888.
- Li, Z., et al. 2020. Mucosal IL-4R antagonist HIV vaccination with SOSIP-gp140 booster can induce high-quality cytotoxic CD4<sup>+</sup>/CD8<sup>+</sup> T cells and humoral responses in macaques. *Sci. Rep.* 10: 22077.
- Bonnal, R.J.P., et al. 2021. Clonally expanded EOMES<sup>+</sup> Tr1-like cells in primary and metastatic tumors are associated with disease progression. *Nat. Immunol.* 22: 735-745.
- Tiberti, S., et al. 2022. GZMK<sup>high</sup> CD8<sup>+</sup> T effector memory cells are associated with CD15<sup>high</sup> neutrophil abundance in non-metastatic colorectal tumors and predict poor clinical outcome. *Nat. Commun.* 13: 6752.
- Mayer-Blackwell, K., et al. 2023. mRNA vaccination boosts S-specific T cell memory and promotes expansion of CD45RA<sub>int</sub> T<sub>EMRA</sub>-like CD8<sup>+</sup> T cells in COVID-19 recovered individuals. *Cell Rep. Med.* 4: 101149.

## PROTOCOLS

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

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