

Datasheet: MCA2120

Description:	MOUSE ANTI GRANZYME B
Specificity:	GRANZYME B
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	GB11
Isotype:	IgG1
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry (1)	▪			1/10 - 1/100
Immunohistology - Frozen	▪			
Immunohistology - Paraffin			▪	
ELISA	▪			2ug/ml - 5ug/ml
Immunoprecipitation	▪			
Western Blotting			▪	
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

(1) Membrane permeabilization is required for this application. The use of Leucoperm (Product Code [BUF09](#)) is recommended for this purpose.

Target Species	Human
Species Cross Reactivity	<p>Reacts with: Chimpanzee, Monkey, Rhesus Monkey</p> <p>N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.</p>
Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein A from tissue culture

supernatant

Buffer Solution Tris buffered saline

Preservative Stabilisers 0.09% sodium azide (NaN₃)

Approx. Protein Concentrations IgG concentration 1.0 mg/ml

Immunogen Purified human Granzyme B.

External Database Links

UniProt:

[P10144](#) [Related reagents](#)

Entrez Gene:

[3002](#) GZMB [Related reagents](#)

Synonyms CGL1, CSPB, CTLA1, GRB

RRID AB_2114582

Fusion Partners Spleen cells from immunised Balb/c mice were fused with cells of the mouse SP2/0 myeloma cell line.

Specificity **Mouse anti Granzyme B antibody, clone GB11** recognizes the serine protease Granzyme B, important in the induction of apoptosis in target cells by cytolytic lymphocytes (CTLs).

Granzyme B plays a key role in the induction of apoptosis by CTLs. After delivery to the target cell, Granzyme B activates the cascade of caspases that finally results in cell death.

Mouse anti Granzyme B antibody, clone GB11 is suitable for the detection of Granzyme B expressing cells by flow cytometry. In normal peripheral blood approximately 20% of CD8+ve T cells have been found to express Granzyme B.

Flow Cytometry Use 10µl of the suggested working dilution to label 10⁶ cells or 100µl whole blood

ELISA Mouse anti Human granzyme B antibody, clone GB11 may be used as a capture reagent in sandwich ELISA assays for soluble Granzyme B in conjunction with biotin conjugated clone GB10 ([MCA2119B](#)) as a detection reagent.

References

1. Spaeny-Dekking, E.H. *et al.* (1998) Extracellular granzymes A and B in humans: detection of native species during CTL responses *in vitro* and *in vivo*. [J Immunol. 160 \(7\): 3610-6.](#)
2. Wever, D. C. *et al.* (1998) The CD8+ Granzyme B+ T cell subset in peripheral blood from healthy individuals contains activated and apoptosis-prone cells. [Immunol. 93: 383](#)
3. Mahrus, S. & Craik, C.S. (2005) Selective chemical functional probes of granzymes A

and B reveal granzyme B is a major effector of natural killer cell-mediated lysis of target cells. [Chem Biol. 12: 567-77.](#)

4. Tschopp, C.M. (2006) Granzyme B, a novel mediator of allergic inflammation: its induction and release in blood basophils and human asthma. [Blood.108:2290-9.](#)

5. Schleypen, J.S. *et al.* (2006) Cytotoxic markers and frequency predict functional capacity of natural killer cells infiltrating renal cell carcinoma. [Clin Cancer Res. 12: 718-25.](#)

6. Hallermalm, K. *et al.* (2008) Modulation of the tumor cell phenotype by IFN-gamma results in resistance of uveal melanoma cells to granule-mediated lysis by cytotoxic lymphocytes. [J Immunol. 180: 3766-74.](#)

7. Clayton, A. *et al.* (2008) Human tumor-derived exosomes down-modulate NKG2D expression. [J Immunol. 180: 7249-58.](#)

8. Hufner, K. *et al.* (2009) Fewer latent herpes simplex virus type 1 and cytotoxic T cells occur in the ophthalmic division than in the maxillary and mandibular divisions of the human trigeminal ganglion and nerve. [J Virol. 83: 3696-703.](#)

9. Kumar, D. *et al.* (2009) JNK MAPK pathway regulates constitutive transcription of CCL5 by human NK cells through SP1. [J Immunol. 182: 1011-20.](#)

10. Davis, C.C. *et al.* (2010) Interleukin-7 permits Th1/Tc1 maturation and promotes ex vivo expansion of cord blood T cells: a critical step toward adoptive immunotherapy after cord blood transplantation. [Cancer Res. 70: 5249-58.](#)

11. Hodge, S. *et al.* (2015) Increased CD8 T-cell granzyme B in COPD is suppressed by treatment with low-dose azithromycin. [Respirology. 20 \(1\): 95-100.](#)

12. Kumagai-Takei, N. *et al.* (2016) The Suppressed Induction of Human Mature Cytotoxic T Lymphocytes Caused by Asbestos Is Not due to Interleukin-2 Insufficiency. [J Immunol Res. 2016: 7484872.](#)

13. Kumagai-Takei, N. *et al.* (2021) Effect of IL-15 addition on asbestos-induced suppression of human cytotoxic T lymphocyte induction. [Environ Health Prev Med. 26 \(1\): 50.](#)

14. Jimenez, O. *et al.* (2019) M1-like macrophage polarization prevails in young children with classic Hodgkin Lymphoma from Argentina. [Sci Rep. 9 \(1\): 12687.](#)

15. El-Garawani, I. *et al.* (2021) Genotoxicity linked to occupational exposure in uranium mine workers: Granzyme B and apoptotic changes. [Environ Sci Pollut Res Int. 28 \(27\): 36793-802.](#)

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.
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Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.

Guarantee	12 months from date of despatch
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Health And Safety Information	Material Safety Datasheet documentation #10057 available at: https://www.bio-rad-antibodies.com/SDS/MCA2120 10057
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Regulatory	For research purposes only
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Related Products

Recommended Secondary Antibodies

Rabbit Anti Mouse IgG (STAR12...)	RPE
Goat Anti Mouse IgG IgA IgM (STAR87...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos. , DyLight®488 , DyLight®550 , DyLight®650 , DyLight®680 , DyLight®800 , FITC , HRP
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR9...)	FITC
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC , HRP

Recommended Negative Controls

[MOUSE IgG1 NEGATIVE CONTROL \(MCA928\)](#)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M412921:221117'

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