abcam

ab243879

Anti-Granzyme B antibody [BLR022E]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human GZMB. Database link P10144
Clone number	BLR022E
Purification notes	The monoclonal antibody was purified from cell culture supernatant.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Not recommended

Species	Transfected cell lysate
Dilution info	-
Notes	-

WB

Tested

Species	Transfected cell lysate
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate
Dilution info	-
Notes	-

Target data

See full target information GZMB

Function Abundant protease in the cytosolic granules of cytotoxic T-cells and NK-cells which activates caspase-independent pyroptosis when delivered into the target cell through the immunological synapse (PubMed:1985927, PubMed:3262682, PubMed:3263427). It cleaves after Asp (PubMed:1985927, PubMed:8258716). Once

delivered into the target cell, acts by catalyzing cleavage of gasdermin-E (GSDME), releasing the pore-forming moiety of GSDME, thereby triggering pyroptosis and target cell death (PubMed:31953257, PubMed:32188940). Seems to be linked to an activation cascade of caspases (aspartate-specific cysteine proteases) responsible for apoptosis execution. Cleaves caspase-3, -9 and -10 (CASP3, CASP9 and CASP10, respectively) to give rise to active enzymes mediating apoptosis (PubMed:9852092). Cleaves and activates CASP7 in response to bacterial infection, promoting plasma membrane repair (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Granzyme B also known as GZMB GB11 or granzyme B protein is a serine protease with a molecular mass of approximately 32 kDa. It is expressed mainly in cytotoxic T lymphocytes and natural killer (NK) cells. This enzyme plays a mechanical role in inducing apoptosis in target cells serving as an effector protein in the immune system's defense against virally infected cells or transformed cancer cells. The activity of granzyme B relies on its ability to cleave after aspartate residues in substrate proteins leading to the activation of apoptotic pathways.

Biological function summary	Granzyme B participates prominently in the immune response by activating caspases particularly caspase-3 which promotes the breakdown of cellular components necessary for apoptosis. Granzyme B does not function in isolation but acts in concert with other immune system factors such as perforin to effectively induce cell death. Perforin creates pores in the target cell membrane allowing granzyme B to enter and instigate the apoptosis sequence. The enzyme also contributes to the processing of cytokines which enhances the immune response further.
Pathways	Studies have determined that granzyme B is critical in the apoptosis pathway particularly in the granule exocytosis pathway. It closely interacts with proteins such as perforin and other granzymes to mediate apoptosis in target cells. Granzyme B also plays a role in the inflammatory response and can influence pathways associated with cytotoxic T cell signaling. Its pathway interactions ensure effective elimination of damaged or infected cells maintaining tissue homeostasis.
Associated diseases and disorders	Granzyme B has associations with autoimmune diseases and cancer. Abnormally high levels of granzyme B can contribute to tissue damage and inflammation in autoimmune conditions like rheumatoid arthritis. In the context of cancer granzyme B aids in tumor surveillance and destruction when functioning correctly but impaired granzyme B activity can lead to evasion of immune detection by cancerous cells. Perforin also plays a role in these conditions closely working with granzyme B to either protect against or drive disease progression.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

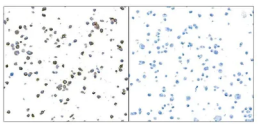
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:

5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Granzyme B antibody [BLR022E] (ab243879)

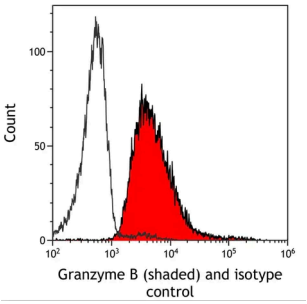
Granzyme B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Granzyme B antibody

Detection of human Granzyme B by immunocytochemistry.
Sample: Cell pellet FFPE section of Granzyme B over-expressing cells (left) and Granzyme H over-expressing cells (right).

Antibody: Rabbit anti-Granzyme B recombinant monoclonal antibody [BLR022E] (ab243879).

Secondary: HRP-conjugated goat anti-rabbit IgG.

Epitope retrieval with citrate buffer pH6.0 is recommended for FFPE cell sections.



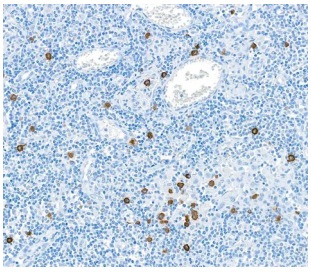
Flow Cytometry (Intracellular) - Anti-Granzyme B antibody [BLR022E] (ab243879)

Granzyme B Flow Cytometry (Intracellular) staining of SR (human lymphoma cell line) cells using rabbit Anti-Granzyme B antibody

Detection of human Granzyme B (shaded) in SR (human lymphoma cell line) cells by flow cytometry.
SR cells fixed in 4% formaldehyde and permeabilized with 90% methanol. 1 µl per 1 x 10^6 cells.

Antibody: Rabbit anti-Granzyme B recombinant monoclonal antibody [BLR022E] (ab243879) or isotype control (unshaded).

Secondary: DyLight® 650-conjugated goat anti-rabbit IgG (ab96886).



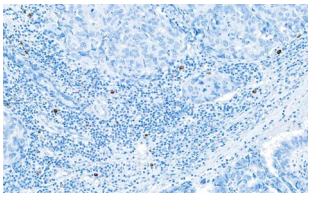
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Granzyme B antibody [BLR022E] (ab243879)

Granzyme B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lymph node using rabbit Anti-Granzyme B antibody

Immunohistochemical analysis of paraffin-embedded Human lymph node tissue labeling Granzyme B with ab243879.
Positive staining on human lymph node

Counterstained with Hematoxylin.

Epitope retrieval with citrate buffer pH 6.0 is recommended for FFPE tissue sections.



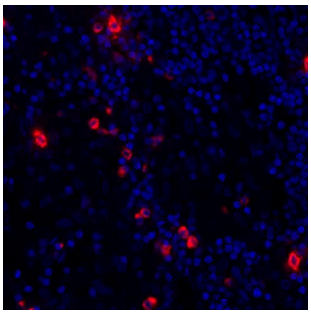
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Granzyme B antibody [BLR022E] (ab243879)

Granzyme B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lung carcinoma using rabbit Anti-Granzyme B antibody

Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labeling Granzyme B with ab243879.
Positive staining on human lung carcinoma

Counterstained with Hematoxylin.

Epitope retrieval with citrate buffer pH 6.0 is recommended for FFPE tissue sections.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Granzyme B antibody [BLR022E] (ab243879)

Granzyme B Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Granzyme B antibody

Formalin-fixed, paraffin-embedded human lung carcinoma stained for Granzyme B (red) using ab243879 at 1/250 dilution in immunohistochemical analysis. HRP-conjugated goat anti-rabbit IgG was used as the secondary. Opal™ staining.

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