abcam

ab288728

Anti-Granzyme K antibody [EPR24601-56] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24601-56
Purification technique	Affinity purification
Concentration	0.987 - 1.015 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Rat, Mouse
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Rat, Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GZMK

Function	Serine protease that initiates the GZMK pathway of the complement system, a cascade of proteins directly activated by CD8(+) T-cells that leads to phagocytosis

and breakdown of pathogens and signaling that strengthens the adaptive immune system (PubMed:3262682, PubMed:39814882, PubMed:39914456). GZMK is specifically secreted by CD8(+) T-cells and mediates both recognition and initiation steps of GZMK complement pathway (PubMed:39914456). First acts as a pattern recognition receptor, which specifically recognizes and binds heparan sulfate glycosaminoglycans on the pathogen surface to drive opsonization (PubMed:39914456). It then initiates the complement pathway cascade by catalyzing cleavage and activation of C2 and C4, the next components of the complement pathway (PubMed:39814882, PubMed:39914456). GZMK-mediated complement activation is an important contributor to tissue inflammation (PubMed:24711407, PubMed:33271118, PubMed:35704599, PubMed:39614076, PubMed:39814882, PubMed:39914456). Also able to cleave and activate F2R/PAR1 and PAR2/F2RL1, possibly promoting interleukin release (PubMed:21760880, PubMed:26936634, PubMed:35881628). May also regulate apoptosis by catalyzing cleavage and activation of BID, thereby promoting cytochrome C release from mitochrondria (PubMed:17308307).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab288728 is the carrier free version of ab288726.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Granzyme K also known as protein K or 24c3 is a serine protease with a mass of approximately 27 kilodaltons. It belongs to the granzyme family of proteins which are mainly found within the cytotoxic granules of natural killer (NK) cells and cytotoxic T lymphocytes (CTLs). These immune cells store granzyme K in their granules which they release to induce apoptosis in target cells. Researchers have identified granzyme K expression in various tissues and immune cells highlighting its widespread role in modulating immune responses.
Biological function summary	Granzyme K serves as a potent mediator in the immune system by inducing apoptosis in target cells. It does not act alone but rather in concert with other granzymes and proteins to effectively execute cell death. Granzyme K can degrade cellular proteins once introduced into a target cell's cytoplasm leading to apoptosis. The protease functions independently and does not require a complex for its activity contributing to the immune system's ability to eliminate infected or transformed cells.
Pathways	The granzyme K protein exists within essential immune regulatory pathways such as the cytotoxic T lymphocyte-induced apoptosis pathway and the natural killer cell-mediated cytotoxicity pathway. Granzyme K acts alongside granzymes A and B to promote programmed cell death and finely tune host immune responses. While granzymes A and B have more defined roles granzyme K complements their activity offering redundancy and ensuring efficient elimination of harmful target cells.
Associated diseases and disorders	Granzyme K shows significant connections to inflammatory conditions and autoimmune diseases such as rheumatoid arthritis. Elevated granzyme K levels in these diseases may result from dysregulated immune responses leading to excessive tissue damage. In autoimmune disorders granzyme K works in combination with proteins like perforin which facilitates entry of granzymes into the cell to stimulate apoptosis. Understanding granzyme K's role in these conditions may help develop therapeutic approaches to modulate immune activity and minimize tissue damage.

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.

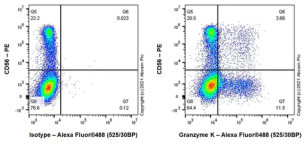
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
Terms & Conditions.

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2 product images

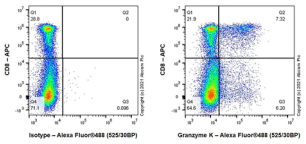


Flow Cytometry (Intracellular) - Anti-Granzyme K antibody [EPR24601-56] - BSA and Azide free (ab288728)

Granzyme K Flow Cytometry (Intracellular) staining using rabbit Anti-Granzyme K antibody

This data was developed using ab288726, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde-fixed, 0.1% saponin-premeabilized Human peripheral blood mononuclear cells labeling Granzyme K with ab288726 at 1/5000 dilution (Right) compared with Rabbit monoclonal IgG (ab172730) isotype control (Left). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as secondary antibody.

Cells were stained with anti-CD56 conjugated to PE. Fixed with 4% PFA for 10 min followed by intracellularly staining with rabbit IgG or ab288726.



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Cells were stained with anti-CD8 conjugated to APC. Fixed with 4% PFA for 10 min followed by intracellularly staining with rabbit IgG or ab288726.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.