abcam

ab226483

Anti-GSDMB antibody [EPR20841] - 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	EPR20841
Purification technique	Affinity purification Protein A
Specificity	According to collaborator's data, this antibody recognizes both full-length and N-term GSDMB (PMID: 32299851).
Concentration	1.044 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information GSDMB

Function

Gasdermin-B. Precursor of a pore-forming protein that acts as a downstream mediator of granzyme-mediated cell death (PubMed:32299851). This form constitutes the precursor of the pore-forming protein: upon cleavage, the released N-terminal moiety (Gasdermin-B, N-terminal) binds to membranes and forms pores, triggering pyroptosis (PubMed:32299851). Also acts as a regulator of epithelial cell repair independently of programmed cell death: translocates to the plasma membrane and promotes epithelial maintenance and repair by regulating PTK2/FAK-mediated phosphorylation of PDGFA (PubMed:35021065). Gasdermin-B, N-terminal. Pore-forming protein produced by cleavage by granzyme A (GZMA), which causes membrane permeabilization and pyroptosis in target cells of cytotoxic T and natural killer (NK) cells (PubMed:27281216, PubMed:32299851). Key downstream mediator of granzyme-mediated cell death: (1) granzyme A (GZMA), delivered to target cells from cytotoxic T- and NK-cells, (2) specifically cleaves Gasdermin-B to generate this form (PubMed:32299851). After cleavage, moves to the plasma membrane, homooligomerizes within the membrane and forms pores of 10-15 nanometers (nm) of inner diameter, triggering pyroptosis (PubMed:32299851, PubMed:36599845, PubMed:36991122, PubMed:36991125). The different isoforms recognize and bind different phospholipids on membranes, promoting cell death of different target cells (PubMed:34022140,

PubMed:36157507, PubMed:36991122, PubMed:36991125). Isoform 4. Precursor of a pore-forming protein that acts as a downstream mediator of granzyme-mediated cell death and mediates pyroptosis (PubMed:28154144, PubMed:36157507, PubMed:36899106, PubMed:36991122, PubMed:36991125). Following cleavage and activation by granzyme A (GZMA), the N-terminal part binds to membrane inner leaflet lipids, homooligomerizes within the human plasma membrane and forms pores of 10-15 nanometers (nm) of inner diameter, triggering pyroptosis (PubMed:28154144, PubMed:36157507, PubMed:36899106, PubMed:36991122, PubMed:36991125). Recognizes and binds membrane inner leaflet lipids of human cells, such as phosphatidylinositol 4-phosphate, phosphatidylinositol 5-phosphate, bisphosphorylated phosphatidylinositols, such as phosphatidylinositol (4,5)-bisphosphate, and more weakly to phosphatidic acid (PubMed:28154144, PubMed:36157507). Also binds sufatide, a component of the apical membrane of epithelial cells (PubMed:28154144). Isoform 6. Precursor of a pore-forming protein that acts as a downstream mediator of granzyme-mediated cell death and mediates pyroptosis of human cells (PubMed:36899106, PubMed:36991122, PubMed:36991125). Following cleavage and activation by granzyme A (GZMA), the N-terminal part binds to membrane inner leaflet lipids, homooligomerizes within the human plasma membrane and forms pores of 10-15 nanometers (nm) of inner diameter, triggering pyroptosis (PubMed:36899106, PubMed:36991122, PubMed:36991125). Isoform 1. Precursor of a pore-forming protein that acts as a downstream mediator of granzyme-mediated cell death and specifically mediates cell death of Gram-negative bacteria in response to infection (PubMed:34022140). Following cleavage and activation by granzyme A (GZMA), the N-terminal part recognizes and binds phospholipids found on Gram-negative bacterial membranes, such as lipid A and cariolipin, homooligomerizes within the bacterial membranes and forms pores, triggering pyroptosis followed by cell death (PubMed:34022140). In contrast to isoform 4, does not bind to membrane inner leaflet lipids of host human cell, such as phosphatidylinositol 4-phosphate, phosphatidylinositol 5-phosphate, bisphosphorylated phosphatidylinositols, such as phosphatidylinositol (4,5)-bisphosphate (PubMed:34022140). Isoform 2. Not able to trigger pyroptosis. Isoform 3. Not able to trigger pyroptosis.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab226483 is the carrier-free version of ab215729.

This antibody was developed in collaboration with Dr Feng Shao's lab, NIBS.

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	GSDMB also known as Gasdermin-B is a protein that plays a significant role in cellular mechanisms. With a molecular weight of approximately 52 kDa GSDMB is encoded by the GSDMB gene. This protein belongs to the gasdermin family and is expressed in various tissues including the stomach esophagus and gastrointestinal tract. Its expression pattern suggests it might have specialized roles in these particular tissues.
Biological function summary	Gasdermin-B is involved in cell death processes particularly in pyroptosis which is a form of programmed cell death. GSDMB forms oligomeric complexes that create pores in the lipid bilayer of cellular membranes. These pores lead to cell swelling and lysis contributing to the inflammatory response. GSDMB also interacts with other gasdermin family proteins indicating a collaborative role in controlling cell death and inflammation.
Pathways	GSDMB is an important component of the pyroptosis pathway and the regulation of immune responses. It interacts with specific members of the caspase family especially Caspase-1 which activates Gasdermin-D in a similar pathway. GSDMB modulates inflammatory signaling by assisting in the release of pro-inflammatory cytokines through its pore-forming activity linking GSDMB to processes that maintain homeostasis and immune defense.

Associated diseases and disorders	Gasdermin-B has been linked to various inflammatory and autoimmune conditions such as Crohn's disease and ulcerative colitis. Altered expression levels of GSDMB can influence disease severity and progression. Additionally GSDMB interacts with TNF-alpha a cytokine involved in the immune response highlighting its importance in inflammatory disease environments. Exploring GSDMB's role in these conditions can advance therapeutic strategies for treating such disorders.

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

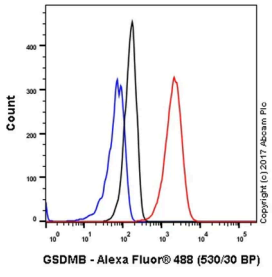
We do not recommend this combination. It is not covered by our product promise.

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.

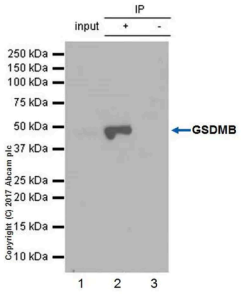
3 product images



Flow Cytometry (Intracellular) - Anti-GSDMB antibody [EPR20841] - BSA and Azide free (ab226483)

GSDMB Flow Cytometry (Intracellular) staining using rabbit Anti-GSDMB antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized A431 (human epidermoid carcinoma cell line) cell line labeling GSDMB with ab215729 at 1/600 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215729).



Immunoprecipitation - Anti-GSDMB antibody [EPR20841] - BSA and Azide free (ab226483)

GSDMB was immunoprecipitated from 0.35 mg of A431 (human epidermoid carcinoma cell line) whole cell lysate with ab215729 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab215729 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: A431 whole cell lysate 10 µg (Input).

Lane 2: ab215729 IP in A431 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab215729 in A431 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

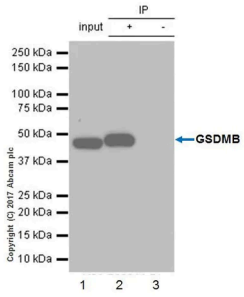
Exposure time: 3 minutes.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215729).

All lanes:
Immunoprecipitation - Anti-GSDMB antibody [EPR20841] (ab215729)

Predicted band size: 46 kDa

Observed band size: 46 kDa



Immunoprecipitation - Anti-GSDMB antibody [EPR20841] - BSA and Azide free (ab226483)

GSDMB was immunoprecipitated from 0.35 mg of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with DDDDK tagged GSDMB expression vector, whole cell lysate with ab215729 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab215729 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: HEK-293T transfected with DDDDK tagged GSDMB expression vector, whole cell lysate 10 µg (Input).

Lane 2: ab215729 IP in HEK-293T transfected with DDDDK tagged GSDMB expression vector, whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab215729 in HEK-293T transfected with DDDDK tagged GSDMB expression vector, whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215729).

All lanes:
Immunoprecipitation - Anti-GSDMB antibody [EPR20841] (ab215729)

Predicted band size: 46 kDa

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