abcam

ab319102

Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] - 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	EPR28070-58
Purification technique	Affinity purification Protein A
Concentration	1.051 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Dot

Tested

Species	Recombinant fragment - Human
Dilution info	-

Notes	-

Expected

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

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment - Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Recombinant fragment - Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Recombinant fragment - Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Recombinant fragment - Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information BTN3A1

Function	Plays a role in T-cell activation and in the adaptive immune response. Regulates the proliferation of activated T-cells. Regulates the release of cytokines and IFNG by activated T-cells. Mediates the response of T-cells toward infected and transformed cells that are characterized by high levels of phosphorylated metabolites, such as isopentenyl pyrophosphate.

Storage

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

Notes

ab319102 is the carrier-free version of ab319101.

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	The BTN3A proteins also known as CD277 consist of three members: BTN3A1 BTN3A2 and BTN3A3 which typically weigh approximately 57 kDa. These proteins are expressed on surface of various immune cells including T cells B cells and natural killer (NK) cells. Btn3A2 and Btn3A3 augment Btn3A1's function in immune regulation through heteromeric complex formation. BTN3A proteins belong to the B7 family involved in modulation of immune responses.

Biological function summary	BTN3A proteins influence activation and proliferation of gamma delta T cells which are critical for immune surveillance against pathogens and tumors. BTN3A1 BTN3A2 and BTN3A3 together form complexes essential for this function. By facilitating recognition of phosphoantigens these proteins modulate immune activation impacting T cell responses. BTN3A proteins serve as important players in immune regulation enabling cells to recognize and respond effectively to tumors and infections.
Pathways	BTN3A proteins participate in the modulation of the immune checkpoint pathway impacting T cell receptor signaling and the immune-suppressive tumor microenvironment. They interact with proteins like Perforin 1 which play important roles in immune responses. These interactions not only regulate immune activation but also influence tumor immune evasion processes making BTN3A proteins significant in cancer immunotherapy research.
Associated diseases and disorders	BTN3A proteins relate to cancer and autoimmune conditions such as lupus erythematosus. Changes in BTN3A expression or function can lead to abnormal immune responses contributing to disease progression. BTN3A proteins' interaction with other immune checkpoint proteins like PD-1 and CTLA-4 influences cancer progression and autoimmune disease pathogenesis through altered immune cell activation and tolerance. Understanding these relationships helps in developing therapies targeting immune checkpoints for better disease management.

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

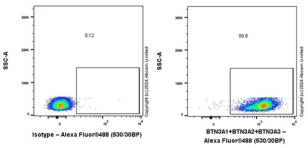
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



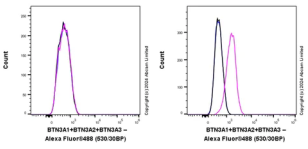
Flow Cytometry - Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] - BSA and Azide free (ab319102)

This data was developed using ab319101, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling BTN3A1 + BTN3A2 + BTN3A3 with ab319101 at 1/50 dilution (1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.



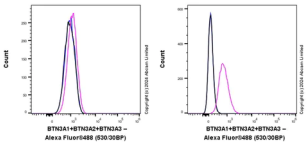
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Flow cytometric analysis of HeLa (human cervical adenocarcinoma epithelial cell) (Right) / MCF7 (human breast adenocarcinoma epithelial cell) (Left) cells labelling BTN3A1 + BTN3A2 + BTN3A3 with ab319101 at 1/50 dilution (1ug) (Magenta) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.
Low expression: MCF7.



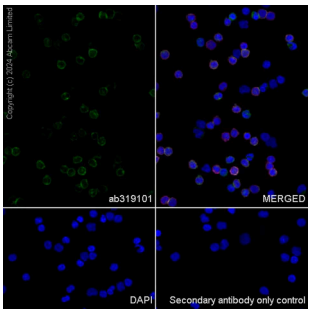
Flow Cytometry - Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] - BSA and Azide free (ab319102)

This data was developed using ab319101, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Jurkat (human T cell leukemia T lymphocyte from peripheral blood) (Right) / Caco-2 (human colorectal adenocarcinoma epithelial cell) (Left) cells labelling BTN3A1 + BTN3A2 + BTN3A3 with ab319101 at 1/50 dilution (1ug) (Magenta) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cells.
Low expression: Caco-2.



Immunocytochemistry/ Immunofluorescence - Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] - BSA and Azide free (ab319102)

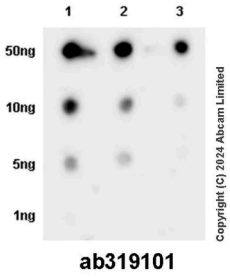
This data was developed using ab319101, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC (human peripheral blood mononuclear cell) cells labelling BTN3A1 + BTN3A2 + BTN3A3 with ab319101 at 1/50 (10.52 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/mL dilution (Green).

Confocal image showing cytoplasmic staining in human PBMC (shown in green). The counterstain was observed in magenta. Nuclear DNA was labeled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Anti-rat CD3 mouse monoclonal antibody (Alexa Fluor® 647) was used to counterstain tubulin at 1/100 5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution.



Dot Blot - Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] - BSA and Azide free (ab319102)

BTN3A1 + BTN3A2 + BTN3A3 Dot Blot staining using rabbit Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody

This data was developed using ab319101, the same antibody clone in a different buffer formulation.

Dot blot analysis of BTN3A1 + BTN3A2 + BTN3A3 using ab319101 at 1:1000 (0.526 ug/ml) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1:100,000 dilution.

Lane1: Human BTN3A1 recombinant protein
Lane2: His-tagged human BTN3A2 recombinant protein
Lane3: His-tagged human BTN3A3 recombinant protein

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

This antibody recognizes BTN3A1, BTN3A2 and BTN3A3.

All lanes:
Dot Blot - Anti-BTN3A1 + BTN3A2 + BTN3A3 antibody [EPR28070-58] (ab319101) at 1/1000 dilution

Lane 1:
Human BTN3A1 recombinant protein

Lane 2:
His-tagged human BTN3A2 recombinant protein

Lane 3:
His-tagged human BTN3A3 recombinant protein

Secondary

All lanes:
Dot Blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Exposure time: 26s

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