abcam

ab316960

Anti-CD27 antibody [EPR27428-9] - 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	EPR27428-9
Purification technique	Affinity purification Protein A
Concentration	0.993 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Transfected cell line - Mouse, Human, Mouse, Rat
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Transfected cell line - Mouse
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat, Transfected cell line - Mouse
Dilution info	-
Notes	-

Target data

See full target information Cd27

Function

Costimulatory immune-checkpoint receptor expressed at the surface of T-cells, NK-cells and B-cells which binds to and is activated by its ligand CD70/CD27L expressed by B-cells. The CD70-CD27 signaling pathway mediates antigen-specific T-cell activation and expansion which in turn provides immune surveillance of B-cells (PubMed:11062504). Mechanistically, CD70 ligation activates the TRAF2-PTPN6 axis that subsequently inhibits LCK phosphorylation to promote phenotypic and transcriptional adaptations of T-cell memory (By similarity). In addition, activation by CD70 on early progenitor cells provides a negative feedback signal to leukocyte differentiation during immune activation and thus modulates hematopoiesis (PubMed:15723067). Negatively regulates the function of Th2 lymphocytes in the adipose tissue (PubMed:38386557).

Storage

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

Notes

ab316960 is the carrirer-free version of ab316959.

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	CD27 also known as Tumor Necrosis Factor Receptor Superfamily Member 7 (TNFRSF7) is a protein chiefly involved in T cell activation and proliferation. It belongs to the TNF-receptor superfamily and weighs approximately 50 kDa. CD27 is expressed mainly on T lymphocytes and to a lesser extent on B cells and natural killer cells. Researchers often study CD27 and its ligand CD70 to understand immune responses. Tools such as anti-CD27 percp 7h21 monoclonal antibodies and APC-conjugated forms help detect this protein in various assays.
Biological function summary	One finds CD27 at the heart of cellular immune responses. It does not function alone; instead it typically forms part of a receptor-ligand complex with CD70 which influences T cell and B cell activities. This interaction promotes cell survival and plays a role in the activation of NF-kB and MAPK8/JNK signaling pathways which are essential for immune response regulation. These pathways ensure that the body's immune cells can efficiently respond to pathogens.
Pathways	CD27 actively integrates into the NF-kB and mTOR signaling pathways which are important for regulating immune and inflammatory responses. Through these pathways CD27 works closely with proteins like TRAF2 and TRAF3 which are adapter molecules that transmit signals from the receptor. These signaling pathways provide a framework for understanding how CD27 and associated proteins work together to control immune cell behavior facilitating coordinated immune defense mechanisms.
Associated diseases and disorders	CD27 has significant implications in autoimmune diseases and cancer. For example aberrant activation of CD27 may contribute to conditions like lymphoma and autoimmune diseases such as lupus. The CD70-CD27 signaling axis when dysregulated can lead to uncontrolled cell proliferation or apoptosis linking it to these pathologies. Understanding the interplay between CD27 and proteins like Bcl-2 which influences apoptosis helps pave the way for therapeutic strategies targeting these diseases.

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

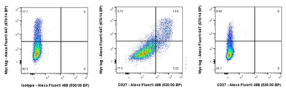
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

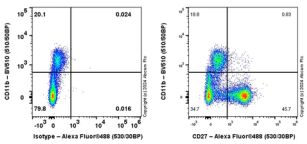
CD27 Flow Cytometry staining using rabbit Anti-CD27 antibody

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype (Left) / 293T cells transfected with a mouse CD27 expression vector containing a myc-His-tag® (Middle) / 293T cells transfected with an empty expression vector containing a myc-His-tag® (Right) cells labelling CD27 with ab316959 at 1/5000 dilution (0.01ug) / Middle and Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with Myc tag conjugated to Alexa Fluor®647.



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

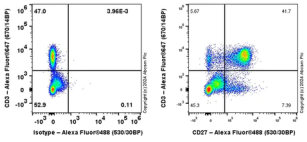
CD27 Flow Cytometry staining of Human PBMC (human peripheral blood mononuclear cell) using rabbit Anti-CD27 antibody

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling CD27 with ab316959 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with anti CD11b conjugated to BV510.
Gated on viable cells.



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

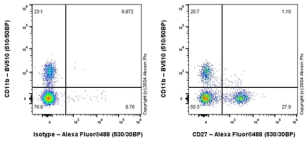
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Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling CD27 with ab316959 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with anti CD3 conjugated to Alexa Fluor®647.
Gated on viable cells.



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

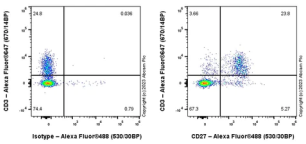
CD27 Flow Cytometry staining of Mouse PBMC using rabbit Anti-CD27 antibody

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse PBMC cells labelling CD27 with ab316959 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with anti CD11b conjugated to BV510.
Gated on viable cells.



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

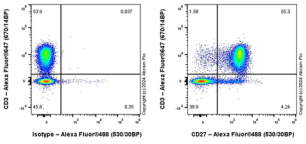
CD27 Flow Cytometry staining of Mouse PBMC using rabbit Anti-CD27 antibody

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Mouse PBMC cells labelling CD27 with ab316959 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with anti CD3 conjugated to Alexa Fluor®647.
Gated on viable cells.



Flow Cytometry - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

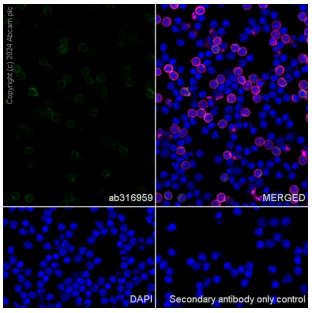
CD27 Flow Cytometry staining of Rat PBMC using rabbit Anti-CD27 antibody

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Flow cytometric analysis of Rat PBMC cells labelling CD27 with ab316959 at 1/500 dilution (0.1ug)/right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control.

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

Cells were co-stained with anti CD3 conjugated to Alexa Fluor®647.
Gated on viable cells.



Immunocytochemistry/ Immunofluorescence - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

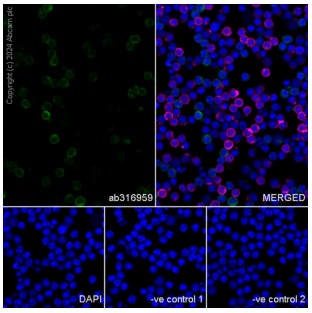
This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized mouse PBMC (Mouse primary peripheral blood mononuclear cell) cells labelling CD27 with ab316959 at 1/50 (9.94 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 subsets of mouse PBMCs (shown in green), which is partly co-localised with CD3(shown 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 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.



Immunocytochemistry/ Immunofluorescence - Anti-CD27 antibody [EPR27428-9] - BSA and Azide free (ab316960)

This data was developed using ab316959, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Tween-20 permeabilized mouse PBMC (Mouse primary peripheral blood mononuclear cell) cells labelling CD27 with ab316959 at 1/50 (9.94 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 subsets of mouse PBMCs (shown in green), which is not co-localised with CD11b (shown in magenta). Nuclear DNA was labeled with DAPI (shown in blue).
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab8878 Anti-CD11b Rat monoclonal antibody was used to counterstain at 1/200 (2.5ug/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.

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