abcam

ab300068

Anti-CD8 beta antibody [EPR26538-16] (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	EPR26538-16
Purification technique	Affinity purification Protein A
Concentration	1.028 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-Fr

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat, Mouse
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat, Mouse
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
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 CD8B

Function

Integral membrane glycoprotein that plays an essential role in the immune response and serves multiple functions in responses against both external and internal offenses. In T-cells, functions primarily as a coreceptor for MHC class I molecule:peptide complex. The antigens presented by class I peptides are derived from cytosolic proteins while class II derived from extracellular proteins. Interacts simultaneously with the T-cell receptor (TCR) and the MHC class I proteins presented by antigen presenting cells (APCs). In turn, recruits the Src kinase LCK to the vicinity of the TCR-CD3 complex. A palmitoylation site in the cytoplasmic tail of CD8B chain contributes to partitioning of CD8 into the plasma membrane lipid rafts where signaling proteins are enriched. Once LCK recruited, it initiates different intracellular signaling pathways by phosphorylating various substrates ultimately leading to lymphokine production, motility, adhesion and activation of cytotoxic T-lymphocytes (CTLs). Additionally, plays a critical role in thymic selection of CD8+ T-cells.

Storage

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

Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot

Notes

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.

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.

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.

Supplementary info

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

Activity summary	The target CD8 beta also known as CD8b or CD8B is a protein component of the CD8 coreceptor that is primarily expressed on the surface of cytotoxic T lymphocytes and a subset of natural killer cells. The CD8 beta molecule pairs with CD8 alpha to form a heterodimer that plays an essential role in the immune response. The molecular weight of CD8 beta is approximately 34 kDa. It is located primarily in the plasma membrane where it interacts with major histocompatibility complex (MHC) class I molecules.
Biological function summary	The CD8 beta protein works as part of the CD8 coreceptor complex which enhances the interaction between T cell receptors (TCRs) and antigens presented by MHC class I on infected or malignant cells. This interaction strengthens the activation signal received by T cells. The CD8 complex including CD8 beta

	contributes to the recognition and elimination of cells presenting foreign antigens which is essential for the adaptive immune response.
Pathways	The CD8 beta protein participates in pathways related to antigen recognition and T cell receptor signaling. The protein together with CD8 alpha facilitates signal transduction following TCR engagement. This action is vital for the activation of cytotoxic T cells enabling immune responses. CD8 beta associates with the Lck kinase another vital player in the TCR signaling pathway through its cytoplasmic tail. In this pathway the presence of CD8 beta helps maintain and modulate effective immune responses.
Associated diseases and disorders	CD8 beta plays a significant role in conditions like viral infections and autoimmune diseases. In viral infections the presence of the CD8 complex containing CD8 beta aids in the destruction of virus-infected cells. In autoimmune diseases abnormal CD8 T cell responses can result in self-tissue damage reflecting dysregulation in its normal function. CD8 beta therefore proves critical in these contexts contributing to disease dynamics by interacting with proteins like MHC class I and Lck kinase during improper immune responses.

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

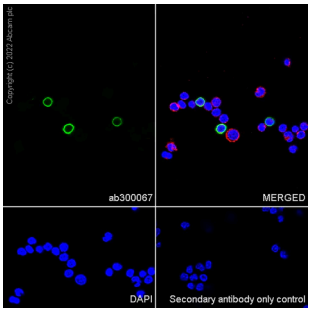
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images

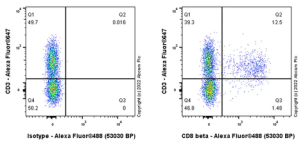


Immunocytochemistry/ Immunofluorescence - Anti-CD8 beta antibody [EPR26538-16] (BSA and Azide free) (ab300068)

CD8 beta Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD8 beta antibody

This data was developed using ab300067, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeilized human PBMC (human Peripheral blood mononuclear cell) cells lebelling CD8 beta with ab300067 at 1/500 (1.04 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 µg/ml) dilution (Green). Confocal image showing cytoplasmic and membranous staining in subsets of human PBMCs. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5 µg/ml) dilution (Red). 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 µg/ml) dilution.



Flow Cytometry - Anti-CD8 beta antibody [EPR26538-16] (BSA and Azide free) (ab300068)

CD8 beta Flow Cytometry staining using rabbit Anti-CD8 beta antibody

This data was developed using ab300067, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD8 beta with ab300067 at 1/500 dilution (0.1 µg) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control. Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody. Gated on viable cells. Cells were stained with rabbit IgG or ab300067, then stained with anti-CD3 conjugated to Alexa Fluor® 647.

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