abcam

ab312909

Alexa Fluor® 488 Anti-CD8 beta antibody [EPR26538-16]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR26538-16
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

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.

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.

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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

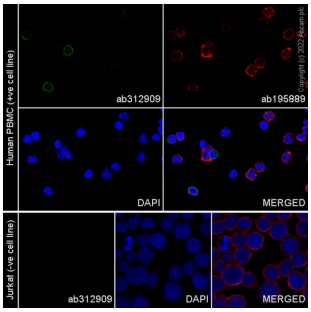
We do not recommend this combination. It is not covered by our product promise.

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.

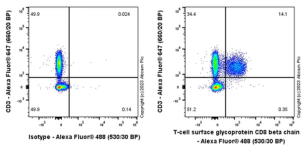
Full details and terms and conditions can be found here:
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2 product images



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-CD8 beta antibody [EPR26538-16] (ab312909)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human PBMC (human peripheral blood mononuclear cell) cells labelling CD8 beta with ab312909 at 1/50 (10.0 µg/ml) dilution (Green). Confocal image showing cytoplasmic and membranous staining in subsets of human PBMC. Negative control: Jurkat (PMID:2111591). The image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). 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).



Flow Cytometry - Alexa Fluor® 488 Anti-CD8 beta antibody [EPR26538-16] (ab312909)

Flow cytometric analysis of permeabilized Human PBMC (human peripheral blood mononuclear cell) cells labelling CD8 beta with ab312909 at 1/500 dilution (0.1 ug)/Right (Red) compared with a Rabbit monoclonal IgG (ab199091) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Human PBMC co-stained with CD3 conjugated to 647. Gated on viable cells.

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