abcam

ab308265

Anti-CD8 alpha antibody [KT15] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG2a
Host species	Rat
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	KT15
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-Fr

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Cd8a

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. LCK then initiates different intracellular signaling pathways by phosphorylating various substrates ultimately leading to lymphokine production, motility, adhesion and activation of cytotoxic T-lymphocytes (CTLs). This mechanism enables CTLs to recognize and eliminate infected cells and tumor cells. In NK-cells, the presence of CD8A homodimers at the cell surface provides a survival mechanism allowing conjugation and lysis of multiple target cells. CD8A homodimer molecules also promote the survival and differentiation of activated lymphocytes into memory CD8 T-cells.

Storage

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

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	CD8 alpha also known as CD8A or CD8 protein is a glycoprotein subunit expressed on the surface of cytotoxic T lymphocytes. It has a mass of approximately 32 kDa. Found on the surface cell membrane CD8 alpha functions primarily in the immune response specifically in the recognition of antigens bound to major histocompatibility complex (MHC) class I molecules. Often scientists use CD8 antibodies for detection and CD8 IHC or immunohistochemistry for localization studies.
Biological function summary	The CD8 alpha protein plays a critical role in T-cell mediated immune responses. It forms a heterodimer with the CD8 beta chain creating the CD8 alpha-beta complex that strengthens T-cell interaction with antigen-presenting cells. CD8 alpha also helps in signaling processes that activate T cells equipping them to destroy infected or malignant cells. Researchers often study CD8 alpha peptides to understand its interactions better.
Pathways	CD8 alpha is integral to the T-cell receptor signaling pathway and the cytotoxic T lymphocyte (CTL) pathway. The T-cell receptor complex which includes the CD8 molecule transmits signals that are important for T-cell activation and function. CD8 interacts with key proteins such as the T-cell receptor (TCR) and MHC class I molecules facilitating targeted responses against pathogens. These pathways highlight CD8 alpha's role in adaptive immunity.
Associated diseases and disorders	CD8 alpha is most prominently associated with viral infections and cancer. Conditions like HIV and some forms of leukemia show altered CD8 function highlighting the protein's role in immune surveillance. In HIV infection for instance CD8 T cells reduce in number impairing the immune response. CD8 alpha's connection to the immune system places it alongside other immune proteins such as CD4 and MHC molecules in the context of immune dysfunction.

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.

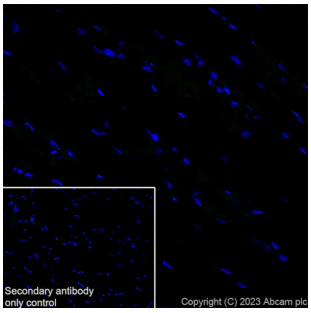
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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4 product images



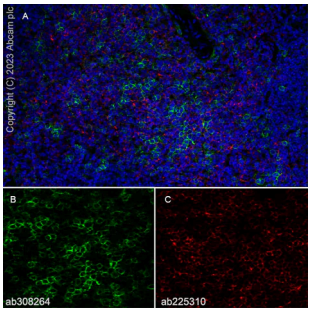
Immunohistochemistry (Frozen sections) - Anti-CD8 alpha antibody [KT15] - BSA and Azide free (ab308265)

CD8 alpha Immunohistochemistry (Frozen sections) staining of Mouse skeletal muscle (fresh) using rat Anti-CD8 alpha antibody

This data was developed using ab308264 the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse skeletal muscle (fresh) tissue labeling CD8 alpha with ab308264 at a 1/100 dilution, followed by ab150157 Goat Anti-Rat IgG H&L (Alexa Fluor® 488) at a 1/1000 dilution (2 µg/mL) (Green).

Negative control: confocal image showing no staining on mouse skeletal muscle. The nuclear counterstain was DAPI (Blue). The section was incubated with ab308264 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150157 Goat Anti-Rat IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (2 µg/mL).



Immunohistochemistry (Frozen sections) - Anti-CD8 alpha antibody [KT15] - BSA and Azide free (ab308265)

CD8 alpha Immunohistochemistry (Frozen sections) staining of Mouse spleen (fresh) using rat Anti-CD8 alpha antibody

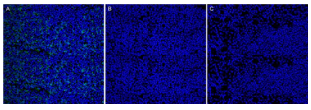
This data was developed using ab308264 the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse spleen (fresh) tissue labeling CD8 alpha with ab308264 at a 1/100 dilution, followed by ab150157 Goat Anti-Rat IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (2 ug/mL) (Green).

Panel A: merged staining of anti-CD8 alpha (ab308264, green) and anti-CD4 (ab225310, red) on mouse spleen.
Panel B: anti-CD8 alpha stained on the mouse spleen.
Panel C: anti-CD4 stained on the mouse spleen.

The section was incubated in two rounds of staining: in the order of ab308264 and ab225310 for 1 hr at room temperature. The nuclear counterstain was DAPI (Blue). The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150157 Goat Anti-Rat IgG H&L (Alexa Fluor® 488) at a 1/1000 dilution (2 ug/mL).



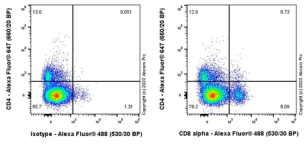
Immunohistochemistry (Frozen sections) - Anti-CD8 alpha antibody [KT15] - BSA and Azide free (ab308265)

CD8 alpha Immunohistochemistry (Frozen sections) staining using rat Anti-CD8 alpha antibody

Immunohistochemical analysis of 4% PFA-fixed 0.2% Triton X-100 permeabilized frozen Mouse spleen (fresh frozen) tissue labeling Digoxigenin with ab320717 at 1/500 (1.006 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/mL dilution (Green).

Confocal image showing positive staining on (A) mouse spleen incubated with Rat Recombinant Monoclonal CD8 alpha antibody conjugated to Digoxigenin and no staining on (B) mouse spleen incubated with Rat Recombinant Monoclonal CD8 alpha antibody (ab308265) and (C) mouse spleen incubated with PBS. The nuclear counterstain was DAPI (Blue). The section was incubated with ab320717 for 60 mins at room temperature. The section was then mounted using Fluoromount®.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

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



Flow Cytometry - Anti-CD8 alpha antibody [KT15] - BSA and Azide free (ab308265)

This data was developed using ab308264 the same antibody clone in a different buffer formulation. Flow cytometric analysis of Mouse splenocyte cells labelling CD8 alpha with ab308264 at 1/1000 dilution (0.1 ug)/Right compared with a Rat monoclonal IgG / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti-Rat IgG (Alexa Fluor® 488, ab150157) at 1/5000 dilution was used as the secondary antibody. Cells were co-stained with anti-CD4 conjugated to Alexa Fluor® 647. Gated on viable cells.

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