abcam

ab244566

Anti-CD8 alpha antibody [OX-8] - BSA and Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	OX-8
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Rat
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	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 duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Do Not Freeze

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

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

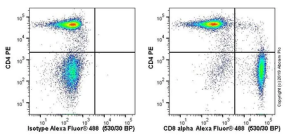
We do not recommend this combination. It is not covered by our product promise.

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.

4 product images



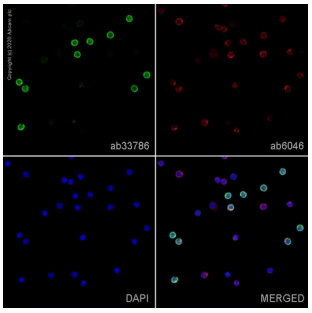
Flow Cytometry - Anti-CD8 alpha antibody [OX-8] - BSA and Azide free (ab244566)

CD8 alpha Flow Cytometry staining using mouse Anti-CD8 alpha antibody

Flow cytometry staining of Lewis rat splenocytes with ab33786 (right) or mouse IgG1 kappa; (ab170190) isotype (left). Cells were incubated for 30 min on ice in 1x PBS containing 10 % rat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab33786) or mouse IgG1 kappa; (ab170190) isotype (1x 10^6 in 100 µl at 0.008 µg/ml) for 30 min on ice.
The secondary antibody Goat anti-mouse IgG H&L (Alexa Fluor® 488, pre-adsorbed) (ab150177) was used at 1/2000 dilution for 30 min on ice.

The cells were simultaneously stained with CD4.

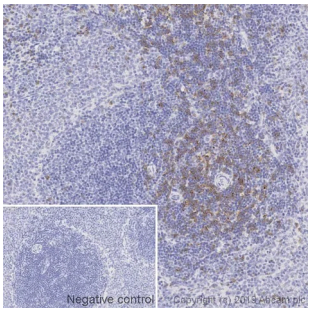
Acquisition of >30,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter. Events were gated on live CD3 positive T cells.



Immunocytochemistry - Anti-CD8 alpha antibody [OX-8] - BSA and Azide free (ab244566)

CD8 alpha Immunocytochemistry staining using mouse Anti-CD8 alpha antibody

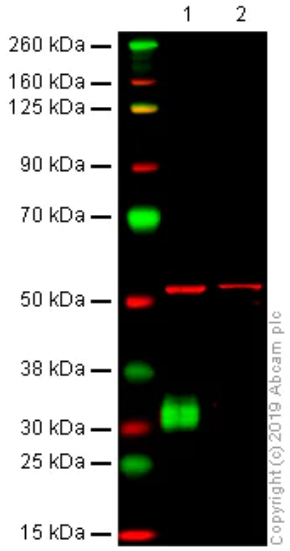
ab33786 staining CD8 alpha in Rat splenocytes cells. The cells were fixed with 4% paraformaldehyde (10 min), permeabilized with 0.1% PBS-Tween for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at 4°C with ab33786 at 5µg/ml and ab6046, Rabbit polyclonal to beta Tubulin - Loading Control. Cells were then incubated with ab150117, Goat polyclonal Secondary Antibody to Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (shown in green) and ab150080, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 594) at 1/1000 dilution (shown in pseudocolour red). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 100% methanol (5 min).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [OX-8] - BSA and Azide free (ab244566)

CD8 alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD8 alpha antibody

IHC image of CD8 alpha staining in a section of formalin-fixed paraffin-embedded normal Rat Spleen performed on a Leica BOND™ system using the standard Protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab33923, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody. For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-CD8 alpha antibody [OX-8] - BSA and Azide free (ab244566)

CD8 alpha Western blot staining using mouse Anti-CD8 alpha antibody

This image was produced using the same clone, but different formulation, ab33786.
This blot was produced using a 4-12% Bis-tris under the MOPS buffer system. The gel was run at 200V for 55 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was blocked for an hour using 3% milk before ab33786 and ab176560 (Rabbit anti-alpha Tubulin loading control) were incubated overnight at 4°C at a 1ug/ml concentration and 1/20000 dilution respectively. Antibody binding was detected using Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-CD8 alpha antibody [OX-8] (ab33786) at 1 µg/mL

Lane 1:
Rat thymus tissue lysate at 20 µg

Lane 2:
Rat brain tissue lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 26 kDa

Observed band size: 32 kDa

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