abcam

ab17147

Anti-CD8 alpha antibody [C8/144B]

Anti-CD8 alpha antibody [C8/144B] (ab17147) is a mouse monoclonal antibody detecting CD8 alpha in **Flow Cytometry, IHC-P**. Suitable for **Human**.

- Over 100 publications
- Trusted since 2005

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.3 - 7.5 Preservative: 0.05% Sodium azide Constituents: Tissue culture supernatant, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human CD8A. The exact immunogen used to generate this antibody is proprietary information. Database link P01732
Clone number	C8/144B
Purity	IgG fraction
Light chain type	kappa
Concentration	0.014 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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	-20°C
Storage information	Avoid freeze / thaw cycle

Notes

Product Specifications

Anti-CD8 alpha antibody [C8/144B] (ab17147) is a mouse monoclonal antibody and is validated for use in Flow Cyt, IHC-P in human samples.
Anti-CD8 alpha antibody [C8/144B] (ab17147) specifically detects CD8 alpha (UniProt ID: P01732; Molecular weight: 24kDa) and is sold in 500 µL selling sizes.

Quality and Validation

Abcam's high quality validation processes ensure Anti-CD8 alpha antibody [C8/144B] (ab17147) has high sensitivity and specificity.
Anti-CD8 alpha antibody [C8/144B] (ab17147) has been cited over 103 times in peer reviewed journals and is trusted by the scientific community.
Anti-CD8 alpha antibody [C8/144B] (ab17147) has 9 independent reviews from customers.

Target Information

CD8 alpha is a transmembrane glycoprotein acting as a co-receptor for the T-cell receptor (TCR), predominantly present on cytotoxic T cells. It is vital for T cell signaling and cytotoxic function by binding to MHC class I molecules, supporting the immune response against infected or cancerous cells. CD8 alpha is linked to various diseases, especially those related to immune system dysfunction

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

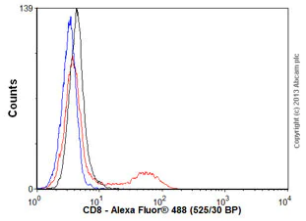
We do not recommend this combination. It is not covered by our product promise.

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.

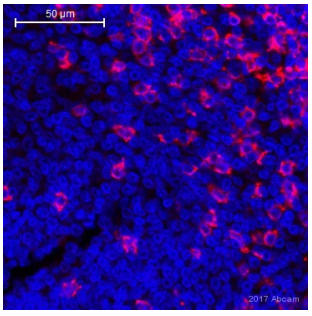
4 product images



Flow Cytometry - Anti-CD8 alpha antibody [C8/144B] (ab17147)

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

Human peripheral blood lymphocytes stained with ab17147 (red line). Human whole blood was processed using a modified protocol based on Chow *et al*, 2005 (PMID: 16080188). In brief, human whole blood was fixed in 4% formaldehyde (methanol-free) for 10 min at 22°C. Red blood cells were then lyzed by the addition of Triton X-100 (final concentration - 0.1%) for 15 min at 37°C. For experimentation, cells were treated with 50% methanol (-20°C) for 15 min at 4°C. Cells were then incubated with the antibody (ab17147, 1/100 dilution) for 30 min at 4°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 4°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >30,000 total events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. Gating strategy - peripheral blood lymphocytes.

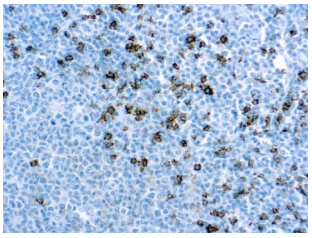


This image is courtesy of an anonymous customer review

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [C8/144B] (ab17147)

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

Paraffin embedded human spleen tissue stained for CD8 alpha using ab17147 at 1/50 dilution in immunohistochemical analysis. Antigen retrieval step with Tris/EDTA pH 9.0.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [C8/144B] (ab17147)

Paraffin embedded human tonsil tissue stained for CD8 T-Cell using ab17147 at 1/100 dilution in immunohistochemical analysis.

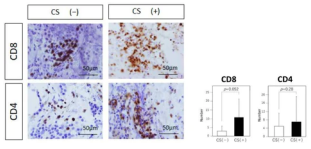


Image from Sato M et al., J Clin Med., 8, 695. Fig 3.; doi: 10.3390/jcm8050695. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [C8/144B] (ab17147)

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

Analysis of tumor-infiltrating lymphocytes. Immunohistochemical analysis of CD8 and CD4 (Original magnification, ×20). Typical examples of each staining are shown in both groups. Statistical analysis of each staining is shown. The number of CD8 (+) lymphocytes tends to be higher in the CS (+) group than in the CS (−) group, but the difference is not statistically significant ($p = 0.052$). The number of CD4 (+) lymphocytes shows no significant difference between the two groups ($p = 0.28$). Data represent the mean ± standard error of mean (CD4 and CD8, student's *t*-test).

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