abcam

ab245118

Anti-CD8 alpha antibody [EPR22483-288]

Anti-CD8 alpha antibody [EPR22483-288] (ab245118) is a rabbit monoclonal antibody detecting CD8 alpha in **Flow Cytometry, IP, IHC-P, mIHC**. Suitable for **Human**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22483-288
Purification technique	Affinity purification Protein A
Concentration	0.414 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Human

Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/400
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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	Conditional Ambient
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

Notes

What is this antibody validated in?
Anti-CD8 alpha antibody [EPR22483-288] (ab245118) is a rabbit recombinant monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Multiplex IHC (mIHC) in Human samples.

Other related products
We have a range of other formats of antibody clone [EPR22483-288] also available for your convenience: ab245118, Carrier free - ab245830

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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

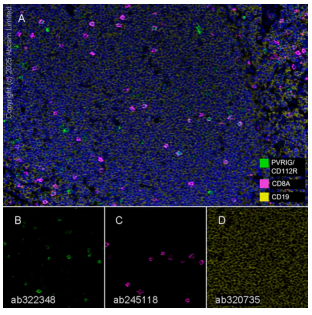
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

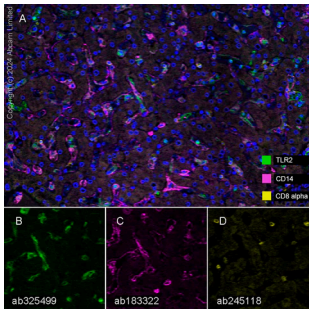
CD8 alpha Multiplex immunohistochemistry staining of Human tonsil using rabbit Anti-CD8 alpha antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human tonsil staining of PVRIG/CD112R with ab322348 at a 1/100 (5.16 µg/ml) dilution, CD19 with ab320735 at 1/2000 (0.255 µg/ml) dilution and CD8A with ab245118 at 1/1000 (0.375 µg/ml) dilution.

Panel A: merged staining of anti-PVRIG/CD112R (green; Opal™520), anti-CD8A (magenta; Opal™570) and anti-CD19 (yellow; Opal™690) on human tonsil.
Panel B: anti-PVRIG/CD112R staining memory and effector CD8+ T lymphocytes in human tonsil.
Panel C: anti-CD8A staining CD8+ T lymphocytes in human tonsil.
Panel D: anti-CD19 staining B lymphocytes in human tonsil.
Nuclear DNA was labeled with DAPI (shown in blue).).

The section was incubated in three rounds of staining: in the order of ab322348, ab245118 and ab320735 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0 epitope retrieval solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

CD8 alpha Multiplex immunohistochemistry staining of Human liver using rabbit Anti-CD8 alpha antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human liver tissue staining TLR2 with ab325499 at a 1:100 (5.0 µg/ml) dilution, ab183322 anti-CD14 used at 1:100 (1.22 µg/ml) dilution and ab245118 anti-CD8 alpha used at a 1:500 (0.75 µg/ml) dilution.

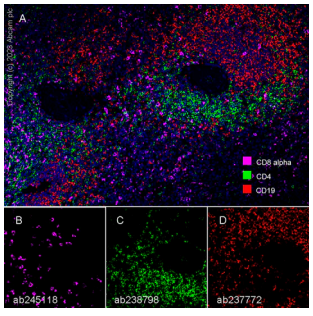
Panel A: anti-TLR2 (green; Opal™520), anti-CD14 (magenta; Opal™570) and anti-CD8 alpha (yellow; Opal™690) on human liver.
Panel B: anti-TLPR2 staining immune cells in human liver.
Panel C: anti-CD14 staining macrophages in human liver.
Panel D: anti-CD8 alpha staining T lymphocytes in human liver.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab325499, ab183322 and ab245118 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

CD8 alpha Multiplex immunohistochemistry staining of Human spleen using rabbit Anti-CD8 alpha antibody

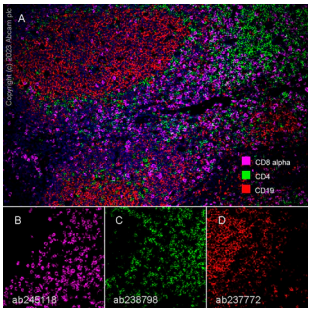
Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human spleen tissue labeling CD8 alpha with ab245118 at 1/500 dilution, CD4 with ab238798 at 1/500, and CD19 with ab237772 at 1/5000 dilution.

Panel A: merged staining of anti-CD8 alpha (magenta; Opal™690), anti-CD4 (green; Opal™520) and anti-CD19 (red; Opal™570) on human spleen.
Panel B: anti-CD8 alpha stained on cytotoxic T cells.
Panel C: anti-CD4 stained on T helper cells.
Panel D: anti-CD19 stained on B cells.

Sections were treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins before antibody incubation. The section was incubated in three rounds of staining: in the order of ab245118 for 30 mins, then ab238798 and ab237772 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

DAPI was used as a nuclear counterstain.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

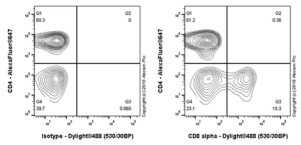
CD8 alpha Multiplex immunohistochemistry staining of Human tonsil using rabbit Anti-CD8 alpha antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human tonsil tissue labeling CD8 alpha with ab245118 at 1/500 dilution, CD4 with ab238798 at 1/500, and CD19 with ab237772 at 1/5000 dilution.
Panel A: merged staining of anti-CD8 alpha (magenta; Opal™690), anti-CD4 (green; Opal™520) and anti-CD19 (red; Opal™570) on human tonsil.
Panel B: anti-CD8 alpha stained on cytotoxic T cells.
Panel C: anti-CD4 stained on T helper cells.
Panel D: anti-CD19 stained on B cells.

Sections were treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins before antibody incubation. The section was incubated in three rounds of staining: in the order of ab245118 for 30 mins, then ab238798 and ab237772 for 10 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

DAPI was used as a nuclear counterstain.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

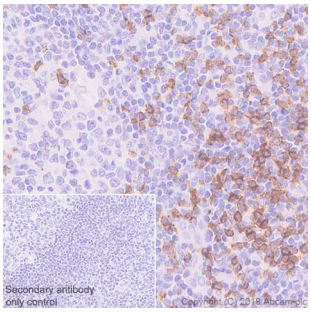


Flow Cytometry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

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

Flow cytometric analysis of human peripheral blood mononuclear cells (PBMC) labeling CD8 alpha with ab245118 at 1/400 (right panel) compared with a Rabbit monoclonal IgG (ab172730) (left panel). Goat anti rabbit IgG (Dylight® 488, ab98462) at 1/2000 dilution was used as the secondary antibody.
Cells were stained with rabbit IgG (Left) or anti-CD8 alpha RabMab (Right). Then stained with Alexa Fluor® 647-conjugated anti-CD4. The expressions of CD4 and CD8 alpha are mutually exclusive.

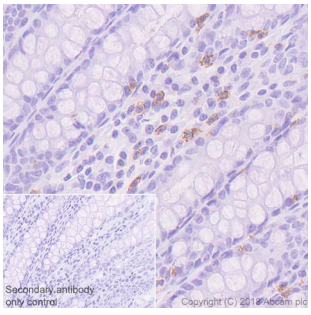
Gated on viable lymphocytes.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

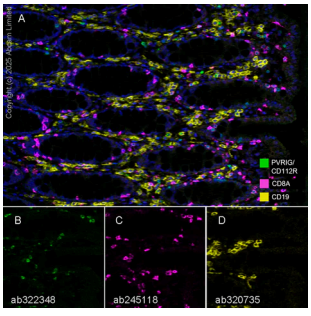
CD8 alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD8 alpha antibody

Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling CD8 alpha with ab245118 at 1/1000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining on the T cell zone of human tonsil (PMID: 16504163) is observed. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

Immunohistochemical analysis of paraffin-embedded human colon tissue labeling CD8 alpha with ab245118 at 1/1000 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Positive staining on lymphocytes of human colon (PMID: 26310568) is observed. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

CD8 alpha Multiplex immunohistochemistry staining of Human colon using rabbit Anti-CD8 alpha antibody

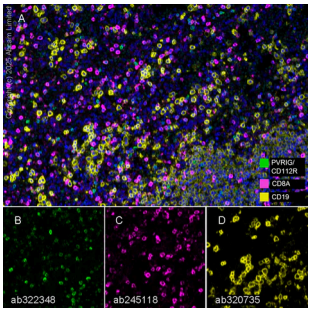
Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human colon staining of PVRIG/CD112R with ab322348 at a 1/100 (5.16 µg/ml) dilution, CD19 with ab320735 at 1/2000 (0.255 µg/ml) dilution and CD8A with ab245118 at 1/1000 (0.375 µg/ml) dilution.

Panel A: merged staining of anti-PVRIG/CD112R (green; Opal™520), anti-CD8A (magenta; Opal™570) and anti-CD19 (yellow; Opal™690) on Human colon.
Panel B: anti-PVRIG/CD112R staining memory and effector CD8+ T lymphocytes in Human colon.

Panel C: anti-CD8A staining CD8+ T lymphocytes in Human colon.
Panel D: anti-CD19 staining B lymphocytes in Human colon.
Nuclear DNA was labelled with DAPI (shown in blue).).

The section was incubated in three rounds of staining: in the order of ab322348, ab245118 and ab320735 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0 epitope retrieval solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

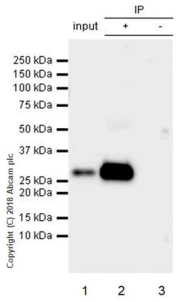
CD8 alpha Multiplex immunohistochemistry staining of Human spleen using rabbit Anti-CD8 alpha antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human spleen staining of PVRIG/CD112R with ab322348 at a 1/100 (5.16 µg/ml) dilution, CD19 with ab320735 at 1/2000 (0.255 µg/ml) dilution and CD8A with ab245118 at 1/1000 (0.375 µg/ml) dilution.

Panel A: merged staining of anti-PVRIG/CD112R (green; Opal™520), anti-CD8A (magenta; Opal™570) and anti-CD19 (yellow; Opal™690) on human spleen.
Panel B: anti-PVRIG/CD112R staining memory and effector CD8+ T lymphocytes in human spleen.
Panel C: anti-CD8A staining CD8+ T lymphocytes in human spleen.
Panel D: anti-CD19 staining B lymphocytes in human spleen.
Nuclear DNA was labelled with DAPI (shown in blue).).

The section was incubated in three rounds of staining: in the order of ab322348, ab245118 and ab320735 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0 epitope retrieval solution2) for 20 mins.



Immunoprecipitation - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

CD8 alpha was immunoprecipitated from 0.35 mg human thymus lysate with ab245118 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab245118 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: Human thymus lysate 10 µg (Input).
Lane 2: ab245118 IP in human thymus lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab245118 in human thymus lysate.

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 30 seconds.

All lanes:
Immunoprecipitation - Anti-CD8 alpha antibody [EPR22483-288] (ab245118)

Predicted band size: 26 kDa

Observed band size: 26 kDa

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