abcam

ab133616

Anti-CD4 antibody [EPR6855]

Anti-CD4 antibody [EPR6855] (ab133616) is a rabbit monoclonal antibody detecting CD4 in **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF, mIHC**. Suitable for **Human**.

- Multiplex IHC validated on the Leica BOND® MAX using Opal reagents
- Biophysical QC for unrivalled batch-batch consistency
- Over 310 publications

Mouse version of this clone also available as ab317787. Same clone, same staining pattern, different species antibody backbone.
Learn more about chimeric antibodies

Lab Essentials | Recombinant | RabMAb | 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	EPR6855
Purification technique	Affinity purification Protein A
Concentration	0.14 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	**For unpurified use at 1/100 - 1/250.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Mouse
Dilution info	-
Notes	**For unpurified use at 1/100 - 1/250.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Rat
Dilution info	-
Notes	**For unpurified use at 1/100 - 1/250.** Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/5000
Notes	**For unpurified use at 1/1000 - 1/10000.**

Not recommended

Species	Mouse
Dilution info	-
Notes	**For unpurified use at 1/1000 - 1/10000.**

Species	Rat
Dilution info	-
Notes	**For unpurified use at 1/1000 - 1/10000.**

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Not recommended

Species	Mouse
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Rat
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD4

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 II molecule:peptide complex. The antigens presented by class II peptides are derived from extracellular proteins while class I peptides are derived from cytosolic proteins. Interacts simultaneously with the T-cell receptor (TCR) and the MHC class II 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 T-helper cells. In other cells such as macrophages or NK cells, plays a role in differentiation/activation, cytokine expression and cell migration in a TCR/LCK-independent pathway. Participates in the development of T-helper cells in the thymus and triggers the differentiation of monocytes into functional mature macrophages. (Microbial infection) Primary receptor for human immunodeficiency virus-1 (HIV-1) (PubMed:12089508, PubMed:16331979, PubMed:2214026, PubMed:9641677). Down-regulated by HIV-1 Vpu (PubMed:17346169). Acts as a receptor for Human Herpes virus 7/HHV-7 (PubMed:7909607).

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	Stable for 12 months at -20°C

Notes

Anti-CD4 antibody [EPR6855] (ab133616) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P, WB and mIHC.

Anti-CD4 antibody [EPR6855] (ab133616) was first used in a scientific publication in 2014 and has been cited over 318 times in peer reviewed journals. It's performance in IHC and Immunofluorescence in human samples is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-CD4 antibody [EPR6855] (ab133616) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-CD4 antibody [EPR6855] (ab133616) has 19 independent reviews from customers.

Anti-CD4 antibody [EPR6855] (ab133616) specifically detects CD4 (UniProt ID: P01730; Molecular weight: 49kDa) and is sold in a convenient trial size to enable initial testing (20 µL) and larger sizes for subsequent scaling up experiments (100 µL and 1 mL).

Conjugation-ready, carrier free format available for antibody clone EPR6855 - ab181724.

Antibody clone EPR6855 is also available pre-conjugated to a variety of labels for your convenience - HRP, Alexa Fluor® 647, Alexa Fluor® 488, Alexa Fluor® 594, Alexa Fluor® 555 (ab195842, ab196147, ab196372, ab277931, ab280849).

IL-4 plays a role in conditions like systemic lupus erythematosus (SLE) and multiple sclerosis, where it influences immune responses and inflammation. Specificity and sensitivity confirmed in IHC with multi-tissue microarray (TMA) validation

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.

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

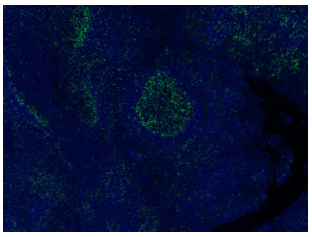
We do not recommend this combination. It is not covered by our product promise.

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.

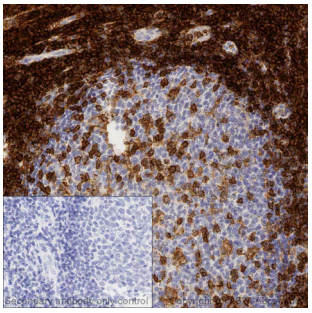
22 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

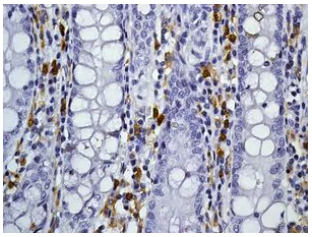
Anti-CD4 antibody [EPR6855] (ab133616)
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD4 with ab133616 at a dilution of 1:500. Heat mediated antigen retrieval was performed using AR9 antigen retrieval solution, and microwave treatment for 15 min at 20% power. Anti-Rabbit/Mouse HRP polymer (PerkinElmer Opal Polymer HRP Ms Plus Rb) was used as secondary antibody. Opal tyramide amplification was performed using Opal 520 fluorophore. Counterstained with DAPI stain. Image scanned with Vectra 3.0 and analyzed via Phenochart software.
This image was courteously provided by Dr. Houssein Abdul Sater, Georgia Cancer Center.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

This data was developed using the same antibody clone in a different buffer formulation (ab181724).

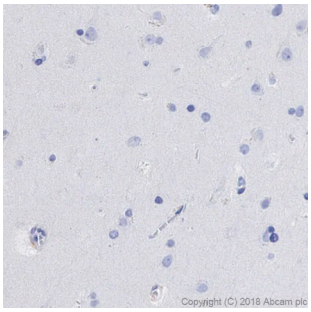
Immunohistochemical analysis of formalin fixed paraffin embedded human tonsil labelling CD4 with ab181724 at a concentration of 0.69 µg/ml. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with a Bond™ Polymer Refine Detection kit. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution 2) for 20 mins. ab181724 Anti-CD4 antibody [EPR6855] was incubated for 30 mins at room temperature. Sections were counterstained with Hematoxylin. Image inset shows absence of staining in secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

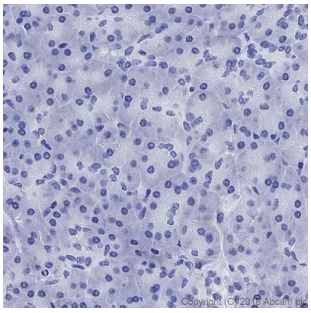
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon tissue labelling CD4 with ab133616 at a dilution of 1/100.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

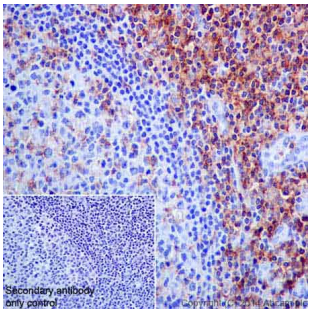
Negative control: no staining on human cerebrum.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cerebrum showing no staining CD4 with purified ab133616 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9 (ab93684). Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

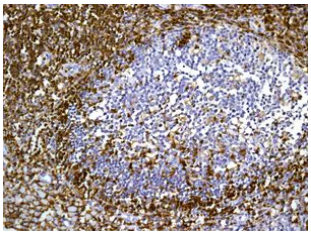
Negative control: no staining on human pancreas.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human pancreas showing no staining CD4 with purified ab133616 at 1/100. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9 (ab93684). Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

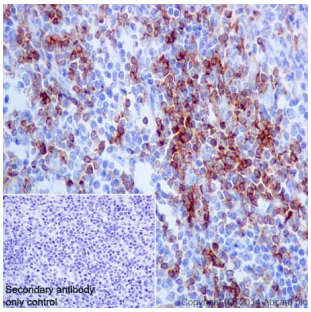
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD4 with purified ab133616 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

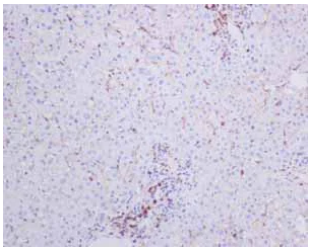
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue labelling CD4 with unpurified ab133616 at a dilution of 1/100.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human thymoma tissue labelling CD4 with purified ab133616 at 1/500. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

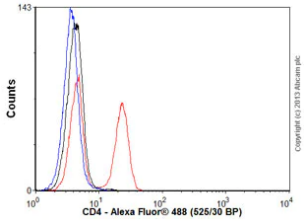


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue labelling CD4 with unpurified ab133616.

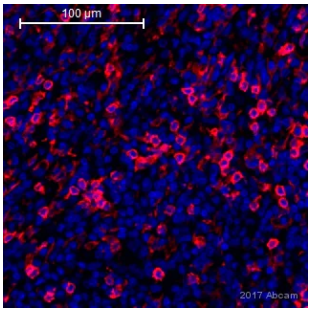
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Flow Cytometry (Intracellular) staining using rabbit Anti-CD4 antibody

Human peripheral blood lymphocytes stained with unpurifiedab133616 (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 (unpurified ab133616, 1/100 dilution) for 30 min at 4°C. The secondary antibody used was Alexa Fluorr® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 4°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/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.

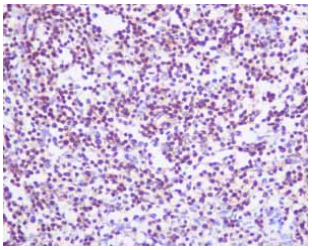


This image is courtesy of an anonymous customer review.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

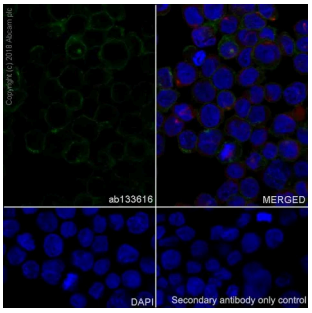
Paraffin-embedded human spleen tissue stained for CD4 using ab133616 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

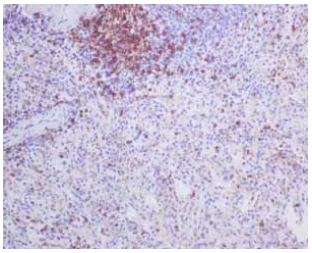
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human thymoma tissue labelling CD4 with unpurified ab133616.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD4 antibody

Immunocytochemistry analysis of THP-1 (Human monocytic leukemia monocyte) labeling CD4 with purified ab133616 at 1/100 dilution. Cells were fixed with 100% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/1000 (2 µg/ml) was used as the secondary antibody. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.30 µg/ml) was used as counterstain. Nuclei were stained blue with DAPI.
Negative control: PBS instead of the primary antibody.

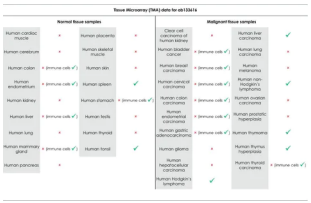


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD4 antibody

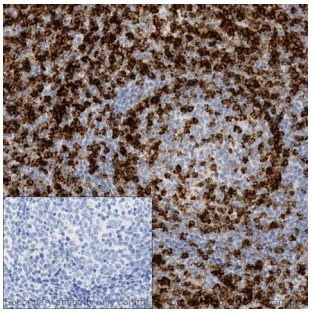
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human spleen tissue labelling CD4 with unpurified ab133616.

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

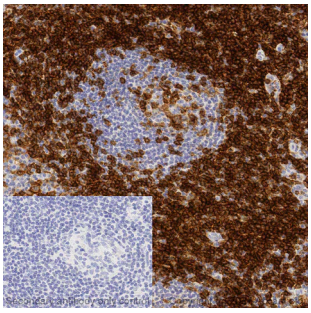
Tissue Microarrays stained for "Anti-CD4 antibody [EPR6855]" using "ab133616"in immunohistochemical analysis. This table provides a detailed overview of positive (tick mark) and negative (cross mark) staining per sample type tested. The sections were pre-treated using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) for 20 minutes. The sections were incubated with ab133616 for 30 mins at room temperature followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

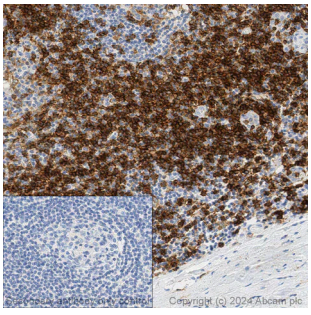
This data was developed using the same antibody clone in a different buffer formulation (ab181724).

Immunohistochemical analysis of formalin fixed paraffin embedded human tonsil labelling CD4 with ab181724 at a concentration of 1.37 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with an OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was conducted for 32 mins at 100°C with ULTRA cell conditioning solution (CC1, pH 8.5). ab181724 Anti-CD4 antibody [EPR6855] was incubated at 37°C for 16 mins. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.



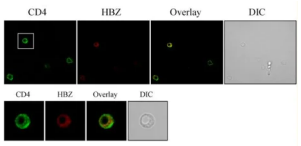
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

Immunohistochemical analysis of formalin fixed paraffin embedded human tonsil labelling CD4with ab133616 at a concentration of 1.43 µg/ml. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with a Bond™ Polymer Refine Detection kit. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution 2) for 20 mins. ab133616 anti-CD4 antibody [EPR6855] was incubated for 30 mins at room temperature. Sections were counterstained with Hematoxylin. Image inset shows absence of staining in secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD4 antibody [EPR6855] (ab133616)

Immunohistochemical analysis of formalin fixed paraffin embedded human tonsil labelling CD4with ab133616 at a concentration of 0.1 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with OptiView DAB IHC Detection Kit followed by OptiView Amplification kit. Heat mediated antigen retrieval was conducted for 32 mins at 100°C with ULTRA cell conditioning solution (CC1, pH 8.5). ab133616 anti-CD4 antibody [EPR6855] was incubated at 37°C for 16 mins. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.



Baratella et al PLoS Negl Trop Dis. 2017 Jan; 11(1): e0005285. Published online 2017 Jan 17. doi: 10.1371/journal.pntd.0005285

Immunocytochemistry/ Immunofluorescence - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD4 antibody

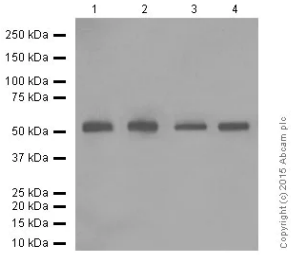
HBZ is preferentially expressed in CD4+ T cells of HAM/TSP patient PH1624
Confocal microscopy analysis of PBMC from HAM/TSP patient PH1624. (A) co-staining with the 4D4-F3 anti-HBZ mAb followed by Alexa Fluor 546-conjugated goat anti-mouse IgG1 antibody (red) and with the anti-CD4 mAb followed by Alexa Fluor 488-conjugated goat-anti-rabbit IgG antibody (green); upper panels, extended field; lower panels, enlarged field focused on the single cell depicted in the square of the left upper panel and positive for both CD4 and HBZ.

CD4 was detected using ab133616 at 1/100 dilution.

From Figure 6A of Baratella et al.

Baratelle et al PLoS Negl Trop Dis. 2017 Jan; 11(1): e0005285. Published online 2017 Jan 17. doi: 10.1371/journal.pntd.0005285

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Western blot - Anti-CD4 antibody [EPR6855] (ab133616)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-CD4 antibody [EPR6855] (ab133616) at 1/5000 dilution

Lane 1:
Human fetal thymus tissue lysate at 20 µg

Lane 2:
Human tonsil tissue lysate at 20 µg

Lane 3:
THP-1 cell lysate at 20 µg

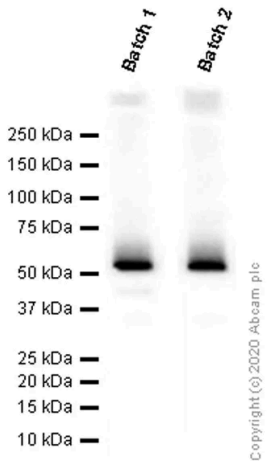
Lane 4:
HuT-78 cell lysate at 20 µg

Secondary

All lanes:
HRP-conjugated anti-rabbit IgG, specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 51 kDa

Observed band size: 51 kDa

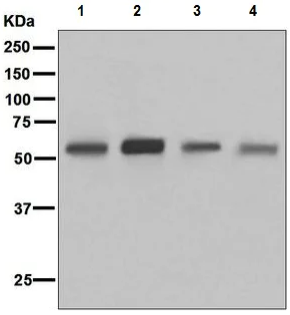


Western blot - Anti-CD4 antibody [EPR6855] (ab133616)

CD4 Western blot staining using rabbit Anti-CD4 antibody

Different batches of ab133616 were tested on THP-1 (Human monocytic leukemia monocyte) lysate at 1.0 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 51 kDa.
All lanes:
Western blot - Anti-CD4 antibody [EPR6855] (ab133616)

Predicted band size: 51 kDa



Western blot - Anti-CD4 antibody [EPR6855] (ab133616)

All lanes:
Western blot - Anti-CD4 antibody [EPR6855] (ab133616) at 1/1000 dilution

Lane 1:
THP-1 cell lysate at 10 µg

Lane 2:
Human fetal thymus lysate at 10 µg

Lane 3:
Human tonsil lysate at 10 µg

Lane 4:
Human lymph node lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 51 kDa

Observed band size: 51 kDa

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