abcam

Product datasheet

Anti-CD3 antibody ab5690

46 Abreviews 421 References 11 Images

Overview

Product name	Anti-CD3 antibody
Description	Rabbit polyclonal to CD3
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide: KAKAKPVTRGAGA , corresponding to amino acids 156-168 of Human CD3 Epsilon chain. Run BLAST with Run BLAST with
General notes	Abcam is committed to meeting high standards of manufacturing and has decided to discontinue this product once the stock runs out as we are unable to secure its future high-quality supply. We suggest **ab16669** as possible replacement. We are sorry for any inconvenience this may case. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.40 Preservative: 0.05% Sodium azide Constituent: PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab5690 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ **(5)**	Use a concentration of 0.5 - 2 µg/ml. Predicted molecular weight: 23 kDa.
IHC-P	★★★★★ **(29)**	1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. The recommended starting incubation time is 10min.

Target

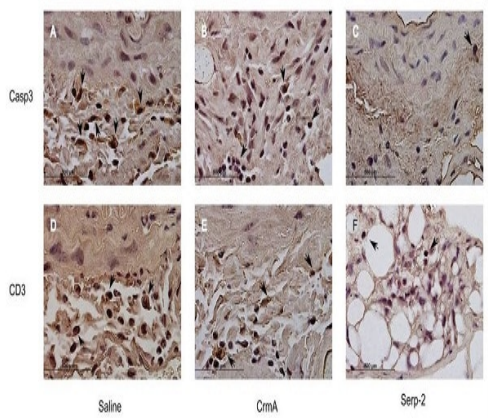
Function The CD3 complex mediates signal transduction.

Involvement in disease Defects in CD3D are a cause of severe combined immunodeficiency autosomal recessive T-cell-negative/B-cell-positive/NK-cell-positive (T(-)/B(+)/NK(+) SCID) [MIM:608971]. A form of severe combined immunodeficiency (SCID), a genetically and clinically heterogeneous group of rare congenital disorders characterized by impairment of both humoral and cell-mediated immunity, leukopenia, and low or absent antibody levels. Patients present in infancy recurrent, persistent infections by opportunistic organisms. The common characteristic of all types of SCID is absence of T-cell-mediated cellular immunity due to a defect in T-cell development.

Sequence similarities Contains 1 ITAM domain.

Cellular localization Membrane.

Images

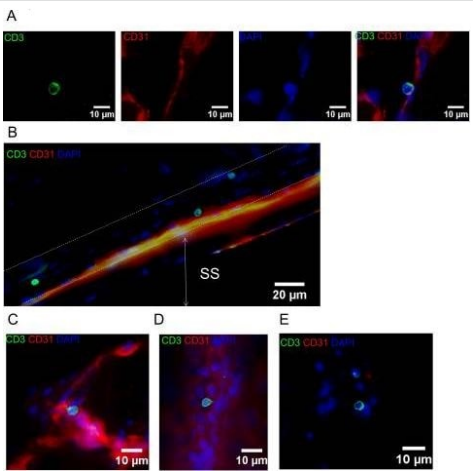


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Viswanathan, K. et al PLoS One. 2012;7(9):e44694. doi: 10.1371/journal.pone.0044694. Epub 2012 Sep 26
Reproduced under the Creative Commons license
http://creativecommons.org/licenses/by/4.0/

CD3 and active Caspase 3 populations 72 hrs after mouse aortic allograft

C57Bl/6 donor aortic allografts were transplanted into Balb/C recipient mice (N=3 per treatment) and followed up at 72hrs. Compared to saline, Serp-2 but not CrmA treatment reduced caspase 3 activity (panels A-C; $p<0.0224$). Neither protein treatment significantly reduced CD3+ T cells (panels D-F).



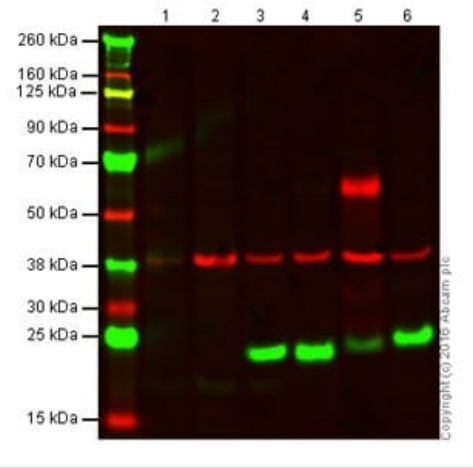
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Divan, A. et al LoS One. 2018 May 3;13(5):e0196893. doi: 10.1371/journal.pone.0196893. eCollection 2018
Reproduced under the Creative Commons license
http://creativecommons.org/licenses/by/4.0/

T cells in central nervous system during late disseminated infection

A-E) Representative epifluorescence images of T cells (CD3), blood vessels (CD31), and nucleated cells (DAPI) in the brain, dura mater, and pia mater. (A) Epifluorescence images described from left to right. CD3 shown in FITC channel; CD31+ blood vessels shown in TRITC channel; nucleated cells shown in DAPI channel; merged image showing CD3+ cell associated with pia mater within the commissure of the isocortex. (B) T cells within the lymphatic-like vascular region of the sagittal sinus in the dura mater. (C) T cell associated with a blood vessel in the vasculature of the brain choroid plexus. (D) T cell associated with blood vessel in the dura mater. (E) T cell in extravascular region of the dura mater.

(After Figure 3 of Dirvan et al)



Western blot - Anti-CD3 antibody (ab5690)

All lanes : Anti-CD3 antibody (ab5690) at 1 µg/ml

Lane 1 : THP1 whole cell lysate (-ve control)
Lane 2 : Raji whole cell lysate (-ve control)
Lane 3 : Jurkat whole cell lysate
Lane 4 : Human Thymus tissue lysate
Lane 5 : Mouse Thymus tissue lysate
Lane 6 : Rat Thymus tissue lysate

Lysates/proteins at 15 µg per lane.

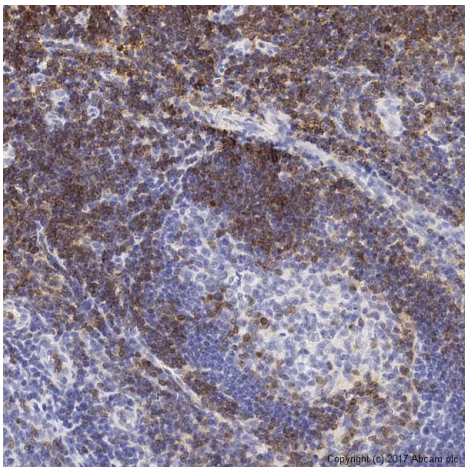
Secondary
All lanes : Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 23 kDa
Observed band size: 23 kDa

Lanes 1 - 6: Merged signal (red and green). Green – ab5690 observed at 23 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

This blot was produced using a 4-12% Bis-tris gel under the MES buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using Licor blocking buffer before being incubated with ab5690 and **ab8245** (loading control) overnight at 4°C. 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)** at a 1:10000 dilution for 1hr at room temperature and then imaged.

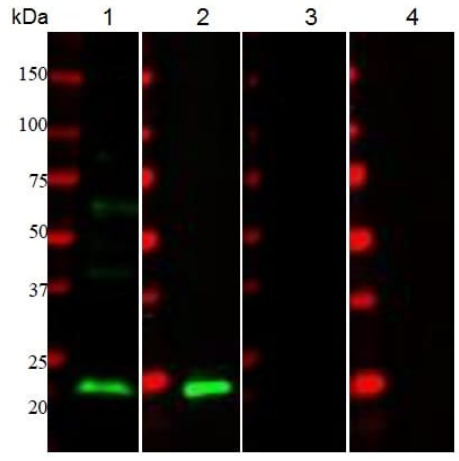


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

IHC image of CD3 staining in a formalin fixed, paraffin embedded normal human tonsil tissue section*, 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) for 20 mins. The section was then incubated with ab5690 at 1/100 dilution 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.

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.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre



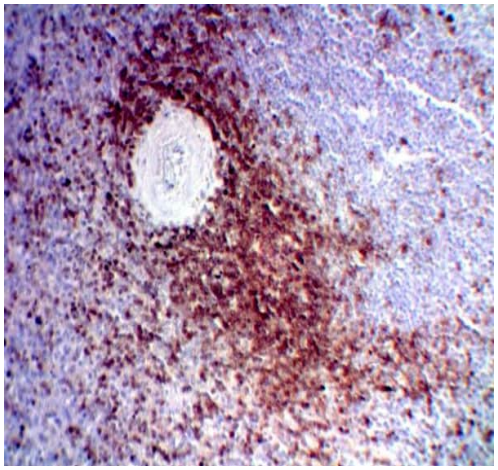
Western blot - Anti-CD3 antibody (ab5690)

Lanes 1-2 : Anti-CD3 antibody (ab5690) at 1 µg/ml
Lanes 3-4 : No primary antibody

Lanes 1 & 3 : Jurkat cell lysate at 30 µg
Lanes 2 & 4 : Rat thymus tissue lysate at 20 µg

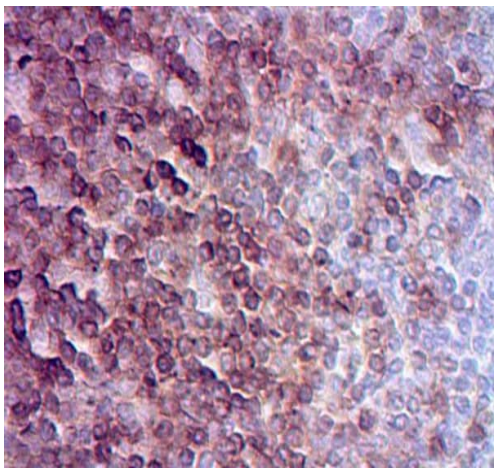
Secondary
All lanes : Goat anti-rabbit IgG (H+L), highly cross - adsorbed, HiLyte™ Fluor 750-labeled at 1/12500 dilution

Predicted band size: 23 kDa
Observed band size: 23 kDa



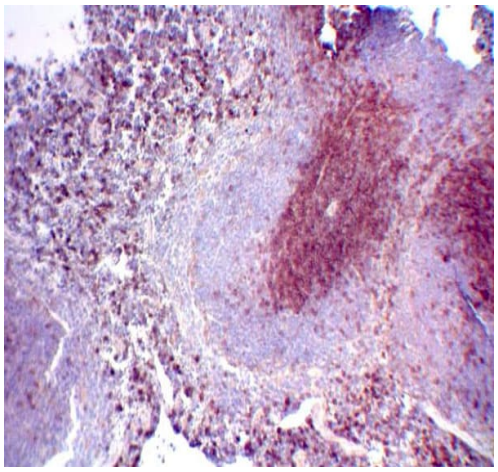
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human spleen tissue labelling CD3 with ab5690 at 2µl/ml. Slides were steamed in IHC epitope retrieval solution for 35 minutes and then cooled for 20 minutes. Samples were incubated with the primary antibody at room temperature for 1 hour, incubated with a biotinylated secondary antibody for 30 minutes followed by HRP-Streptavidin for 30 minutes. Developed with DAB chromogen substrate for 5-10 minutes. Counter stained with hematoxylin. Magnification: 10X.



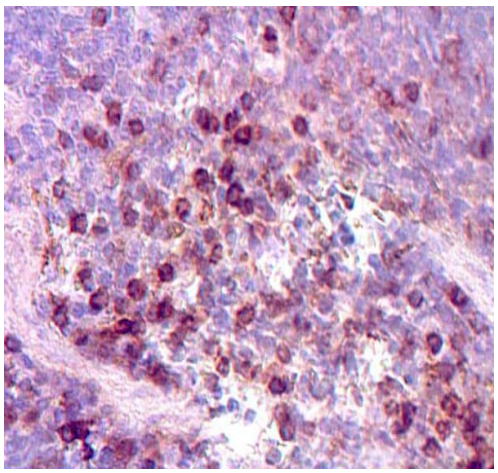
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human spleen tissue labelling CD3 with ab5690 at 2µl/ml. Slides were steamed in IHC epitope retrieval solution for 35 minutes and then cooled for 20 minutes. Samples were incubated with the primary antibody at room temperature for 1 hour, incubated with a biotinylated secondary antibody for 30 minutes followed by HRP-Streptavidin for 30 minutes. Developed with DAB chromogen substrate for 5-10 minutes. Counter stained with hematoxylin. Magnification: 40X.



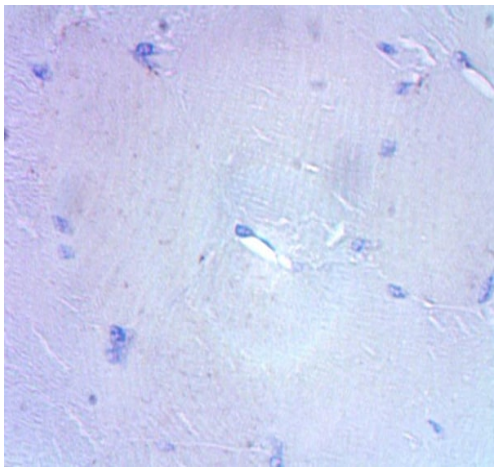
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse spleen tissue labelling CD3 with ab5690 at 2µl/ml. Slides were steamed in IHC epitope retrieval solution for 35 minutes and then cooled for 20 minutes. Samples were incubated with the primary antibody at room temperature for 1 hour, incubated with a biotinylated secondary antibody for 30 minutes followed by HRP-Streptavidin for 30 minutes. Developed with DAB chromogen substrate for 5-10 minutes. Counter stained with hematoxylin. Magnification: 10X.



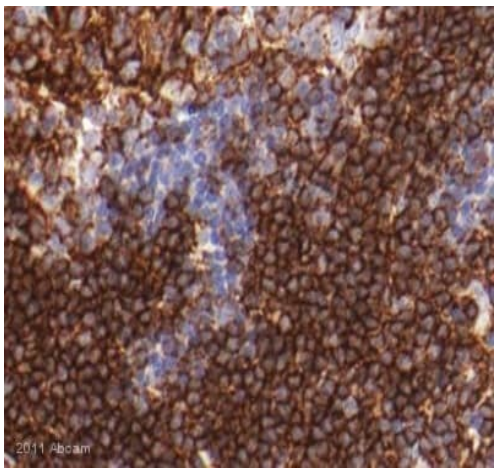
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse spleen tissue labelling CD3 with ab5690 at 2µl/ml. Slides were steamed in IHC epitope retrieval solution for 35 minutes and then cooled for 20 minutes. Samples were incubated with the primary antibody at room temperature for 1 hour, incubated with a biotinylated secondary antibody for 30 minutes followed by HRP-Streptavidin for 30 minutes. Developed with DAB chromogen substrate for 5-10 minutes. Counter stained with hematoxylin. Magnification: 40X.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human skeletal muscle tissue showing no expression of CD3 when labelled with ab5690 at 2µl/ml. Slides were steamed in IHC epitope retrieval solution for 35 minutes and then cooled for 20 minutes. Samples were incubated with the primary antibody at room temperature for 1 hour, incubated with a biotinylated secondary antibody for 30 minutes followed by HRP-Streptavidin for 30 minutes. Developed with DAB chromogen substrate for 5-10 minutes. Counter stained with hematoxylin. Magnification: 40X.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 antibody (ab5690)
This image is courtesy of an Anonymous Abreview.

ab5690 staining CD3 in human lymph node tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded tissue sections). The sections were fixed in paraformaldehyde and subjected to heat-mediated antigen retrieval in citric buffer pH 6.0, prior to blocking with 10% serum for 1 hour at 20°C. The primary antibody was diluted 1/100 and incubated with the sample for 12 hours at 4°C. An HRP-conjugated goat anti-rabbit polyclonal was used as the secondary antibody, diluted 1/200.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors