abcam

ab109217

Anti-CD6/T12 antibody [EPR4057]

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	EPR4057
Purification technique	Affinity purification Protein A
Concentration	0.115 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/100 - 1/250.** Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/20
Notes	**For unpurified use at 1/10 - 1/100.**

WB

Tested

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

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	**For unpurified use at 1/100 - 1/250.**

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Target data

See full target information T-cell differentiation antigen CD6

Function	Cell adhesion molecule that mediates cell-cell contacts and regulates T-cell responses via its interaction with ALCAM/CD166 (PubMed:15048703, PubMed:15294938, PubMed:16352806, PubMed:16914752, PubMed:24584089,

PubMed:24945728). Contributes to signaling cascades triggered by activation of the TCR/CD3 complex (PubMed:24584089). Functions as a costimulatory molecule; promotes T-cell activation and proliferation (PubMed:15294938, PubMed:16352806, PubMed:16914752). Contributes to the formation and maturation of the immunological synapse (PubMed:15294938, PubMed:16352806). Functions as a calcium-dependent pattern receptor that binds and aggregates both Gram-positive and Gram-negative bacteria. Binds both lipopolysaccharide (LPS) from Gram-negative bacteria and lipoteichoic acid from Gram-positive bacteria (PubMed:17601777). LPS binding leads to the activation of signaling cascades and down-stream MAP kinases (PubMed:17601777). Mediates activation of the inflammatory response and the secretion of pro-inflammatory cytokines in response to LPS (PubMed:17601777).

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

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD6 also known as T12 is a glycoprotein expressed on T cells and some subsets of B cells. The protein has a molecular mass of approximately 105-130 kDa. CD6 is primarily located on the surface of thymocytes mature T lymphocytes and on some B cell lines. It plays an important role in the immunological synapse serving as a receptor that aids in cell-to-cell communication during immune responses. The CD6 protein is also detectable in immune tissues including the spleen and lymph nodes.
Biological function summary	CD6 functions involve T cell maturation and proliferation. The protein is part of the lymphocyte activation complex contributing to the modulation of T cell receptor (TCR) signaling. It interacts with other cell surface proteins such as CD3 and CD28 to influence the response of T cells to antigens. CD6 potentially modulates the threshold for T cell activation favoring the adjustment of immune responses to various antigens.
Pathways	CD6 participates in the signaling pathways that regulate adaptive immune responses. It is involved in the T cell receptor (TCR) signaling pathway essential for T cell activation and differentiation. CD6 interacts with proteins like LCK and ZAP-70 which are pivotal for the TCR signaling cascade. Additionally CD6's role in immune synapse formation connects it to the modulation of cytokine production and immune cell communication.
Associated diseases and disorders	CD6 associates with autoimmune diseases and multiple sclerosis. The protein's involvement in T cell activation and immune regulation makes it a candidate for studies targeting autoimmune pathologies. Autoimmune disorders such as rheumatoid arthritis have shown links with CD6's activity as its deregulation can lead to inappropriate immune responses. Additionally CD6's interaction with proteins like CD166 has implications in the pathogenesis of these disorders indicating a potential target for therapeutic interventions.

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

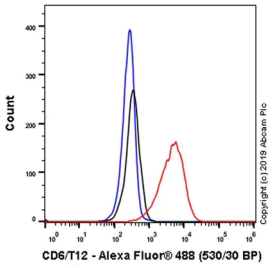
We do not recommend this combination. It is not covered by our product promise.

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.

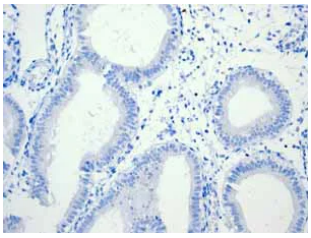
12 product images



Flow Cytometry (Intracellular) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Flow Cytometry (Intracellular) staining using rabbit Anti-CD6/T12 antibody

Intracellular Flow Cytometry analysis of HuT-78 (Human Sezary syndrome cutaneous T lymphocyte) cells, labeling CD6/T12 with Purified ab109217 at 1/20 dilution (10µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

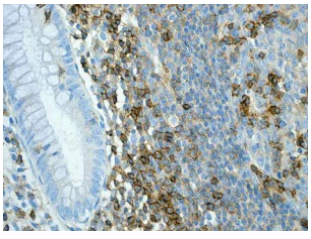


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD6/T12 antibody

Unpurified ab109217 showing negative staining in Normal uterus tissue.

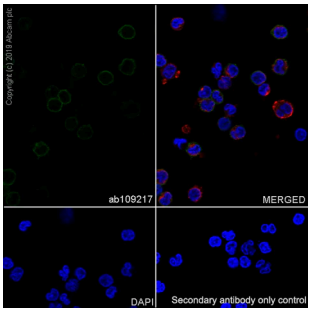
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD6/T12 antibody

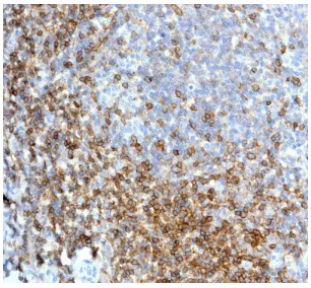
Unpurified ab109217, at a 1/100 dilution, staining CD6/T12 in paraffin embedded Human lymphocytes infiltrating colon tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD6/T12 antibody

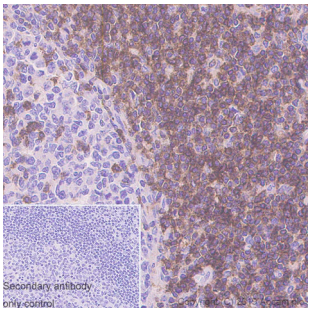
Immunocytochemistry/Immunofluorescence analysis of Human PBMC (Human primary peripheral blood mononuclear cell) cells labeling CD6/T12 with Purified ab109217 at 1:50 dilution (2.3 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD6/T12 antibody

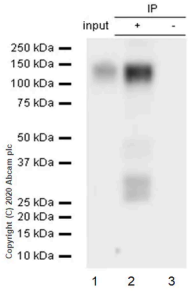
Unpurified ab109217, at a 1/100 dilution, staining CD6/T12 in paraffin embedded Human tonsil tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

CD6/T12 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD6/T12 antibody

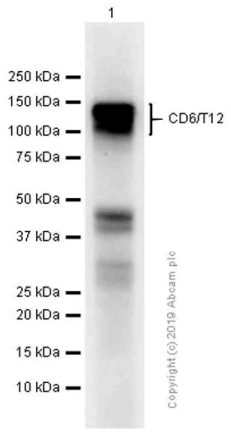
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human tonsil tissue sections labeling CD6/T12 with purified ab109217 at 1/1000 dilution (0.115 µg/mL). Heat mediated antigen retrieval was performed using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.



Immunoprecipitation - Anti-CD6/T12 antibody [EPR4057] (ab109217)

Purified ab109217 at 1:20 dilution (0.6µg) immunoprecipitating CD6/T12 in HuT-78 whole cell lysate.
Lane 1 (input): HuT-78 (Human Sezary syndrome cutaneous T lymphocyte) whole cell lysate 10µg
Lane 2 (+): ab109217 + HuT-78 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab109217 in HuT-78 whole cell lysate.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 105-130 kDa
All lanes:
Immunoprecipitation - Anti-CD6/T12 antibody [EPR4057] (ab109217)

Predicted band size: 72 kDa



Western blot - Anti-CD6/T12 antibody [EPR4057] (ab109217)

The molecular weight of CD6 ranges from 105 to 130 kDa depending on its degree of phosphorylation (PMID: 17601777).
Blocking/Diluting buffer: 5% NFDM/TBST

All lanes:
Western blot - Anti-CD6/T12 antibody [EPR4057] (ab109217) at 1/5000 dilution

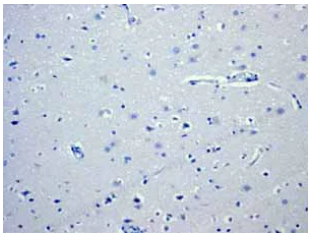
All lanes:
HuT-78 (Human Sezary syndrome cutaneous T lymphocyte) whole cell lysate at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 72 kDa

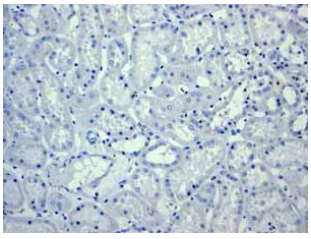
Observed band size: 105-130 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

Unpurified ab109217 showing negative staining in Normal brain tissue.

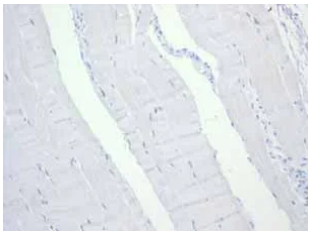
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

Unpurified ab109217 showing negative staining in Normal kidney tissue.

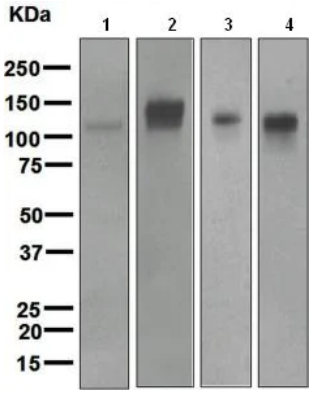
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] (ab109217)

Unpurified ab109217 showing negative staining in Skeletal muscle tissue.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-CD6/T12 antibody [EPR4057] (ab109217)

All lanes:
Western blot - Anti-CD6/T12 antibody [EPR4057] (ab109217) at 1/1000 dilution

Lane 1:
Jurkat lysates at 10 µg

Lane 2:
Human tonsil lysates at 10 µg

Lane 3:
PBMC lysates at 10 µg

Lane 4:
HuT-78 lysates at 10 µg

Secondary

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

Predicted band size: 72 kDa

Observed band size: 90-130 kDa

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