abcam

ab247795

Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR4057
Purification technique	Affinity purification Protein A
Concentration	1.049 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247795 is the carrier-free version of ab109217.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide

and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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.

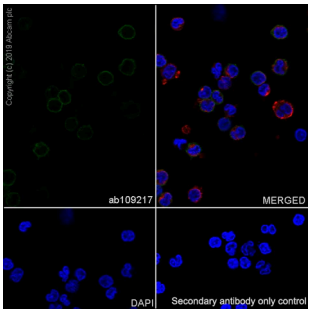
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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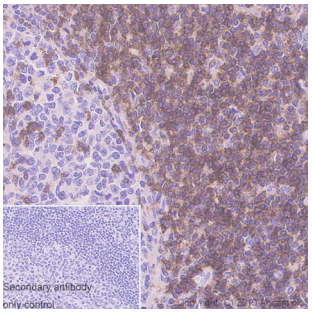
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free (ab247795)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109217).



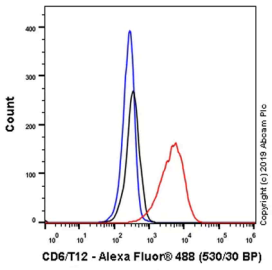
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free (ab247795)

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.

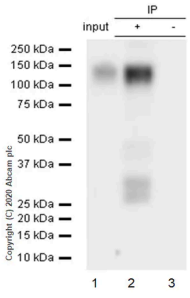
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109217).



Flow Cytometry (Intracellular) - Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free (ab247795)

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 Fluor® 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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109217).

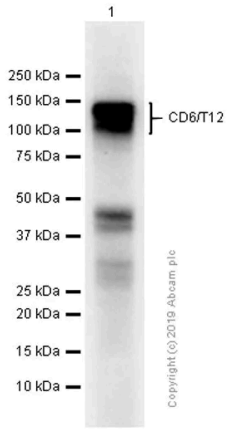


Immunoprecipitation - Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free (ab247795)

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
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109217).

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

Predicted band size: 72 kDa



Western blot - Anti-CD6/T12 antibody [EPR4057] - BSA and Azide free (ab247795)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab109217).

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

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