abcam

ab9181

Anti-CD6/T12 antibody [MEM-98]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human T-cell differentiation antigen CD6. Database link P30203
Clone number	MEM-98
Purification technique	Affinity purification Protein A
Specificity	CD6 / T12 antigen (human)
Light chain type	unknown
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS. Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	2 µg/mL
Notes	-

WB

Tested

Species	Human
Dilution info	1-2 µg/mL
Notes	works in WB application under non-reducing conditions

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 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

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.

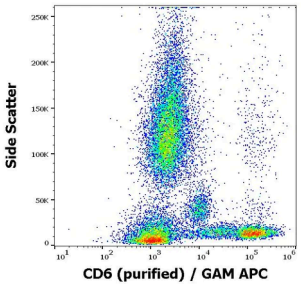
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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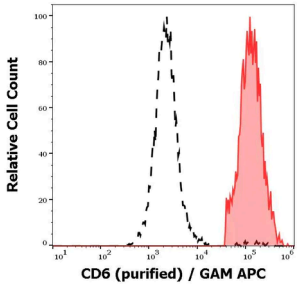
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3 product images



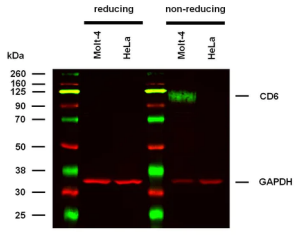
Flow Cytometry - Anti-CD6/T12 antibody [MEM-98] (ab9181)

Flow cytometric analysis of human peripheral whole blood labeling CD6/T12 with ab9181 at 2µg/ml. Secondary used is a goat anti-mouse-APC.



Flow Cytometry - Anti-CD6/T12 antibody [MEM-98] (ab9181)

Flow cytometric analysis of human CD6 positive lymphocytes (red-filled) / neutrophil granulocytes (black-dashed) from peripheral whole blood cells labeling CD6/T12 with ab9181 at 2µg/ml. Secondary used is a goat anti-mouse-APC.



Western blot - Anti-CD6/T12 antibody [MEM-98] (ab9181)

Nitrocellulose membrane blot was probed with ab9181 used at 1 µg/ml, followed by IRDye 800CW Goat-anti-Mouse IgG (green). Mouse anti-GAPDH monoclonal antibody conjugated with DyLight 680 (0.1 µg/ml), was used as the loading control (red). Multiplex fluorescent Western blot detection was performed.

CD6 molecules were detected at ~100 kDa in Molt-4 cell line under non-reducing conditions.

All lanes:
Western blot - Anti-CD6/T12 antibody [MEM-98] (ab9181) at 1 µg/mL

Lane 1:
Molt-4 whole cell extracts, reducing

Lane 2:

HeLa whole cell extracts, reducing

Lane 3:
Molt-4 whole cell extracts, non-reducing

Lane 4:
HeLa whole cell extracts, non-reducing

Secondary

All lanes:
IRDye 800CW Goat-anti-Mouse IgG

Predicted band size: 72 kDa

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