abcam

ab68565

FITC Anti-CD53 antibody [MEM-53]

Anti-CD53 antibody [MEM-53] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [MEM-53] is a mouse monoclonal antibody.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD53 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P19397
Clone number	MEM-53
Purification technique	Size-exclusion chromatography
Specificity	ab68565 reacts with CD53 exclusivelly expressed on leukocytes; it is not present on platelets, red blood cells and non-hematopoietic cells. This antibody reacts also with deglycosylated molecule (molecular weight of the antigen is reduced by 15 kDa using endoglycosidase F).

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10 µL for 10^6 Cells
Notes	Use neat. ab91356 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD53

Function	Structural component of specialized membrane microdomains known as tetraspanin-enriched microdomains (TERMs), which act as platforms for receptor clustering and signaling (PubMed:28487417). Participates thereby in diverse biological functions such as cell signal transduction, adhesion, migration and protein trafficking (PubMed:32974937, PubMed:35767951). Plays a role in the activation of monocytes and B-cells (PubMed:8335905). Acts as an essential regulator of B-cell development by promoting interleukin-7 receptor/IL7R signaling (By similarity). Also promotes, in B-cells, the BCR signaling by recruiting PKC to the plasma membrane in order to phosphorylate its substrates (PubMed:28487417). Plays an essential role in B- and T-cells homing to lymph nodes by stabilizing L-selectin/SELL cell surface expression (By similarity). Also mediates metabolic and inflammatory functions in hepatocytes and adipose tissue by promoting TNF and LPS signaling independent of the immune compartment (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

The antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use.

Supplementary info

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

Activity summary	CD53 also known as Tetraspanin-25 is a transmembrane glycoprotein with a molecular mass of approximately 35-40 kDa. It belongs to the tetraspanin family characterized by four transmembrane domains. CD53 primarily resides on the surface of leukocytes including B cells T cells natural killer cells and macrophages. This protein plays an important role in signal transduction processes by organizing proteins on the cell membrane and forming tetraspanin-enriched microdomains.
Biological function summary	CD53 plays a significant role in regulating immune responses cell development and migration. It does not work alone but as part of larger protein complexes that influence cell communication and inter-organizational responses. CD53 participates in organizing membrane proteins into functional complexes which impacts cellular processes such as adhesion signaling and cellular activation. Its interaction with other proteins is critical to maintain normal immune system functionality and responding appropriately to infections.
Pathways	CD53 is involved in the regulation of immune signaling and cellular communication networks. It is a component of the tetraspanin web which influences the integrin and immunoreceptor pathways two important signaling pathways in cellular communication. Proteins such as CD9 and CD81 also members of the tetraspanin family frequently interact with CD53 suggesting cooperative roles in modulating cellular adhesion and trafficking processes critical for immune response.
Associated diseases and disorders	CD53 shows a connection to immune system dysfunctions including autoimmune conditions and certain types of cancer. Its altered expression can contribute to abnormal immune responses seen in diseases like systemic lupus erythematosus (SLE) and lymphoma. In these disorders CD53's interaction with CD19 and other B-cell-associated proteins plays a part in abnormal cell signaling leading to issues in cell proliferation or miscommunication within the immune system.

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

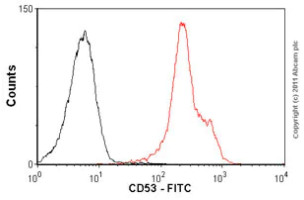
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - FITC Anti-CD53 antibody [MEM-53] (ab68565)

CD53 Flow Cytometry staining using mouse Anti-CD53 antibody

Overlay histogram showing peripheral blood lymphocytes stained with ab68565 (red line). The cells incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab68565, 1 µg/1x10^6 cells) for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 FITC (2 µg/1x10^6 cells) for 30 min at 22°C. Acquisition of >5,000 events was performed.

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