abcam

ab22383

Anti-CD53 antibody [MRC OX-44]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	MRC OX-44
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Rat
Dilution info	0.2 µg/mL

Notes	-

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 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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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

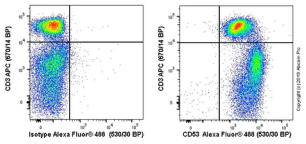
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - Anti-CD53 antibody [MRC OX-44] (ab22383)

CD53 Flow Cytometry staining using mouse Anti-CD53 antibody

Lewis rat splenocytes stained with ab22383 (right) or mouse IgG1κ (left). Lewis rat splenocytes were incubated for 30 min on ice in 10% rat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab22383) or mouse IgG1κ Isotype (ab170190) ($1x10^6$ in 100µl at 0.2 µg/ml) for 30 min on ice.
The secondary antibody Goat Anti-Mouse IgG H&L (Alexa Fluor ® 488, pre-adsorbed) (ab150117) was used at 1/2000 dilution for 30 min at 4°C. The cells were simultaneously stained with CD3 APC antibody.

Acquisition of >30,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter. Events were gated on viable lymphocytes.

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