abcam

ab134498

PE/Cy7® Anti-CD27 antibody [O323]

Anti-CD27 antibody [O323] conjugated to PE/Cy7® - suitable for flow cytometry, and reacts with human samples. Clone [O323] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE/Cy7®
Excitation/Emission	Ex: 565nm, Em: 778nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Clone number	O323
Purification technique	Affinity purification Protein G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^6 Cells

Notes	ab154457 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD27

Function	Costimulatory immune-checkpoint receptor expressed at the surface of T-cells, NK-cells and B-cells which binds to and is activated by its ligand CD70/CD27L expressed by B-cells (PubMed:28011863). The CD70-CD27 signaling pathway mediates antigen-specific T-cell activation and expansion which in turn provides immune surveillance of B-cells (PubMed:28011863). Mechanistically, CD70 ligation activates the TRAF2-PTPN6 axis that subsequently inhibits LCK phosphorylation to promote phenotypic and transcriptional adaptations of T-cell memory (PubMed:38354704). In addition, activation by CD70 on early progenitor cells provides a negative feedback signal to leukocyte differentiation during immune activation and thus modulates hematopoiesis (By similarity). Negatively regulates the function of Th2 lymphocytes in the adipose tissue (By similarity).

Storage

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

Supplementary info

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

Activity summary	CD27 also known as Tumor Necrosis Factor Receptor Superfamily Member 7 (TNFRSF7) is a protein chiefly involved in T cell activation and proliferation. It belongs to the TNF-receptor superfamily and weighs approximately 50 kDa. CD27 is expressed mainly on T lymphocytes and to a lesser extent on B cells and natural killer cells. Researchers often study CD27 and its ligand CD70 to understand immune responses. Tools such as anti-CD27 percp 7h21 monoclonal antibodies and APC-conjugated forms help detect this protein in various assays.
Biological function summary	One finds CD27 at the heart of cellular immune responses. It does not function alone; instead it typically forms part of a receptor-ligand complex with CD70 which influences T cell and B cell activities. This interaction promotes cell survival and plays a role in the activation of NF-kB and MAPK8/JNK signaling pathways which are essential for immune response regulation. These pathways ensure that the body's immune cells can efficiently respond to pathogens.

Pathways	CD27 actively integrates into the NF-kB and mTOR signaling pathways which are important for regulating immune and inflammatory responses. Through these pathways CD27 works closely with proteins like TRAF2 and TRAF3 which are adapter molecules that transmit signals from the receptor. These signaling pathways provide a framework for understanding how CD27 and associated proteins work together to control immune cell behavior facilitating coordinated immune defense mechanisms.
Associated diseases and disorders	CD27 has significant implications in autoimmune diseases and cancer. For example aberrant activation of CD27 may contribute to conditions like lymphoma and autoimmune diseases such as lupus. The CD70-CD27 signaling axis when dysregulated can lead to uncontrolled cell proliferation or apoptosis linking it to these pathologies. Understanding the interplay between CD27 and proteins like Bcl-2 which influences apoptosis helps pave the way for therapeutic strategies targeting these diseases.

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

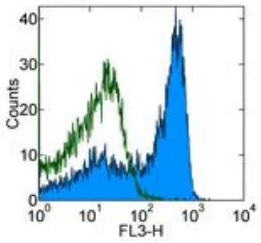
We do not recommend this combination. It is not covered by our product promise.

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 - PE/Cy7® Anti-CD27 antibody [O323] (ab134498)

CD27 Flow Cytometry staining using mouse Anti-CD27 antibody

Flow cytometric analysis of normal Human peripheral blood cells labelling Human CD27 with ab134498 at 5µl (filled histogram). Mouse IgG1 kappa Isotype control (open histogram). Cells in the lymphocyte gate were used for analysis.

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