abcam

ab233300

APC/Cy7® Anti-CD8 antibody [MEM-31]

Anti-CD8 antibody [MEM-31] conjugated to APC/Cy7® - suitable for flow cytometry, and reacts with human samples. Clone [MEM-31] is a mouse monoclonal antibody cited in 6 publications.

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Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	APC/Cy7®
Excitation/Emission	Ex: 650nm, Em: 785nm
Storage buffer	pH: 7.4 Preservative: 0.0975% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Tissue preparation containing CD8A protein. The exact immunogen used to generate this antibody is proprietary information. Database link P01732
Clone number	MEM-31
Purification technique	Size-exclusion chromatography
Purification notes	The purified antibody is conjugated with tandem dye APC-Cy™7 under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	(or 100 µL whole blood)

Target data

See full target information CD8A

Function	Integral membrane glycoprotein that plays an essential role in the immune response and serves multiple functions in responses against both external and internal offenses. In T-cells, functions primarily as a coreceptor for MHC class I molecule:peptide complex. The antigens presented by class I peptides are derived from cytosolic proteins while class II derived from extracellular proteins. Interacts simultaneously with the T-cell receptor (TCR) and the MHC class I proteins presented by antigen presenting cells (APCs). In turn, recruits the Src kinase LCK to the vicinity of the TCR-CD3 complex. LCK then initiates different intracellular signaling pathways by phosphorylating various substrates ultimately leading to lymphokine production, motility, adhesion and activation of cytotoxic T-lymphocytes (CTLs). This mechanism enables CTLs to recognize and eliminate infected cells and tumor cells. In NK-cells, the presence of CD8A homodimers at the cell surface provides a survival mechanism allowing conjugation and lysis of multiple target cells. CD8A homodimer molecules also promote the survival and differentiation of activated lymphocytes into memory CD8 T-cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Notes

This product or portions thereof is manufactured under license from Carnegie Mellon University under U.S. Patent Number 5, 268, 486 and related patents. Cy® and CyDye® are trademarks of Cytiva.

Supplementary info

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

Activity summary	CD8 also known as CD8a or Leu-2 is a glycoprotein with a molecular weight of approximately 32 kDa. It is prominently expressed on the surface of cytotoxic T lymphocytes. These CD8 molecules facilitate the interaction between T cells and antigen-presenting cells by binding to major histocompatibility complex (MHC) class I molecules. This interaction is essential for the immune system to recognize and destroy infected or cancerous cells. CD8 is often identified using various markers like CD8 FITC CD8 APC and CD8 PerCP which are used in flow cytometry for cell sorting and analysis.
Biological function summary	CD8 plays a significant role in the adaptive immune response. It is not part of a multimeric complex but functions as a co-receptor that enhances the recognition of antigens by the T cell receptor (TCR). The presence of CD8 molecules aids the activation of T cells leading to their proliferation and the effective targeting and elimination of pathogens or abnormal cells. The ability of CD8 to bind to MHC class I molecules allows cytotoxic T cells to detect and respond to nearly all nucleated cells in the body.
Pathways	CD8 is integral in both the T cell receptor signaling pathway and the induction of apoptosis. In the T cell receptor signaling pathway CD8 works closely with other proteins like Lck and ZAP-70 to transmit signals upon TCR-MHC class I engagement. This promotes T cell activation cytokine production and cell division. Furthermore CD8's interaction with Fas ligand pathways contributes to the initiation of programmed cell death which is important for maintaining immune homeostasis and preventing overreaction of the immune system.
Associated diseases and disorders	CD8 T cells are significant in the context of viral infections and autoimmune diseases. For example during HIV infection the depletion of CD8 T cells impairs the immune response allowing the virus to evade the immune system. Additionally in autoimmune disorders like Type 1 diabetes CD8 T cells mistakenly target and destroy insulin-producing beta cells in the pancreas. These pathological processes also involve proteins such as MHC class I and other immune modulators like interleukins that modulate CD8 T cell activity and differentiation.

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

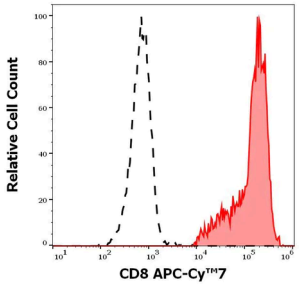
We do not recommend this combination. It is not covered by our product promise.

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.

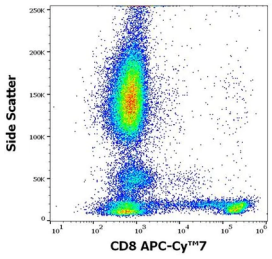
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2 product images



Flow Cytometry - APC/Cy7® Anti-CD8 antibody [MEM-31] (ab233300)

Separation of human CD8 positive lymphocytes (red-filled) from neutrophil granulocytes (black-dashed) in flow cytometry analysis (surface staining) of human peripheral whole blood stained using anti-human CD8 (MEM-31) APC-Cy™7 antibody (4 µl reagent / 100 µl of peripheral whole blood).



Flow Cytometry - APC/Cy7® Anti-CD8 antibody [MEM-31] (ab233300)

Flow cytometry surface staining pattern of human peripheral whole blood stained using anti-human CD8 (MEM-31) APC-Cy™7 antibody (4 µl reagent / 100 µl of peripheral whole blood).

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