abcam

ab241937

redFluor™ 710 Anti-CD8 alpha antibody [RPA-T8]

Anti-CD8 alpha antibody [RPA-T8] conjugated to redFluor™ 710 - suitable for flow cytometry, and reacts with human samples. Clone [RPA-T8] 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	redFluor™ 710
Excitation/Emission	Ex: 684nm, Em: 704nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride, 0.12% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	RPA-T8
Purification technique	Affinity purification
Specificity	ab241937 is specific for the 32-34 kDa alpha chain of human CD8, known as CD8a or CD8 alpha.
Light chain type	kappa
Purification notes	ab241937 was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	5 µL for 10^5-10^8 Cells
Notes	Use 5 µl (0.125 µg) per test. The antibody has been diluted for use at 5 µl per test, defined as the amount of antibody that will stain a cell sample in a final volume of approximately 100 µl. The number of cells within a sample should be determined empirically, but typically ranges between $1x10^5$ to $1x10^8$ cells.

Predicted

Species	Chimpanzee, Baboon, Cynomolgus monkey, Rhesus monkey
Dilution info	-
Notes	-

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

If used together with an alternative Anti-Human CD8 alpha clone, Hit8a, the RPA-T8 antibody will not block binding of Hit8a to CD8 alpha.

Supplementary info

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

Activity summary	CD8 alpha also known as CD8A or CD8 protein is a glycoprotein subunit expressed on the surface of cytotoxic T lymphocytes. It has a mass of approximately 32 kDa. Found on the surface cell membrane CD8 alpha functions primarily in the immune response specifically in the recognition of antigens bound to major histocompatibility complex (MHC) class I molecules. Often scientists use CD8 antibodies for detection and CD8 IHC or immunohistochemistry for localization studies.
Biological function summary	The CD8 alpha protein plays a critical role in T-cell mediated immune responses. It forms a heterodimer with the CD8 beta chain creating the CD8 alpha-beta complex that strengthens T-cell interaction with antigen-presenting cells. CD8 alpha also helps in signaling processes that activate T cells equipping them to destroy infected or malignant cells. Researchers often study CD8 alpha peptides to understand its interactions better.
Pathways	CD8 alpha is integral to the T-cell receptor signaling pathway and the cytotoxic T lymphocyte (CTL) pathway. The T-cell receptor complex which includes the CD8 molecule transmits signals that are important for T-cell activation and function. CD8 interacts with key proteins such as the T-cell receptor (TCR) and MHC class I molecules facilitating targeted responses against pathogens. These pathways highlight CD8 alpha’s role in adaptive immunity.
Associated diseases and disorders	CD8 alpha is most prominently associated with viral infections and cancer. Conditions like HIV and some forms of leukemia show altered CD8 function highlighting the protein's role in immune surveillance. In HIV infection for instance CD8 T cells reduce in number impairing the immune response. CD8 alpha’s connection to the immune system places it alongside other immune proteins such as CD4 and MHC molecules in the context of immune dysfunction.

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.

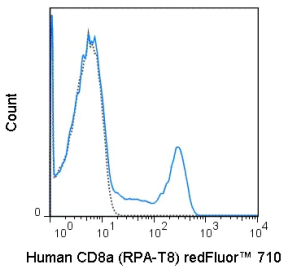
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Flow Cytometry - redFluor™ 710 Anti-CD8 alpha antibody [RPA-T8] (ab241937)

CD8 alpha Flow Cytometry staining using mouse Anti-CD8 alpha antibody

Flow cytometric analysis of human peripheral blood lymphocytes stained for CD8 alpha with 5 µl (0.125 µg) ab241937 (solid line) or 0.125 µg redFluor™ 710 Mouse IgG1 isotype control (dashed line).

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