abcam

ab86318

FITC Anti-Perforin antibody [B-D48]

Anti-Perforin antibody [B-D48] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [B-D48] is a mouse monoclonal antibody cited in 52 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.3 - 7.5 Preservative: 0.09% Sodium azide Constituents: PBS, 5% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Full Length Protein corresponding to Human PRF1. Database link P14222
Clone number	B-D48
Purity	Tissue culture supernatant
Light chain type	kappa

Reactivity data

Flow Cyt

Expected

Species	Human

Dilution info	10 µL for 10^6 Cells
Notes	-

Target data

See full target information PRF1

Function	Pore-forming protein that plays a key role in granzyme-mediated programmed cell death, and in defense against virus-infected or neoplastic cells (PubMed:20889983, PubMed:21037563, PubMed:24558045, PubMed:9058810, PubMed:9164947). Plays an important role in killing other cells that are recognized as non-self by the immune system, e.g. in transplant rejection or some forms of autoimmune disease (PubMed:9058810). Can insert into the membrane of target cells in its calcium-bound form, oligomerize and form large pores (PubMed:20889983, PubMed:21037563). Promotes cytolysis and apoptosis of target cells by mediating the passage and uptake of cytotoxic granzymes (PubMed:20038786, PubMed:20225066, PubMed:24558045, PubMed:32299851). Facilitates the delivery of cationic cargo protein, while anionic or neural proteins are not delivered efficiently (PubMed:24558045). Perforin pores allow the release of mature caspase-7 (CASP7) into the extracellular milieu (By similarity).

Storage

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

Notes

This product was changed from ascites to tissue culture supernatant on 19th June 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

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

Activity summary	Perforin also referred to as PRF1 is a pore-forming protein that plays an important role in immune response. It appears as a 67-kDa protein and is mainly expressed in cytotoxic T cells and natural killer (NK) cells. The function of perforin involves the formation of transmembrane pores in the membranes of target cells aiding in

	the delivery of pro-apoptotic molecules. This mechanism is essential for the destruction of virus-infected cells and tumor cells. Techniques like perforin IHC and perforin ELISA are suitable for detecting and quantifying this protein in various samples.
Biological function summary	Perforin helps the immune system respond effectively against infected or malignant cells. It works in conjunction with granzymes forming a complex that perforates target cell membranes allowing granzymes to enter and induce apoptosis. Perforin's role in immune surveillance prevents the propagation of harmful cells within the body. Deficiency or malfunction in perforin can lead to compromised immune function or immune cell dysregulation.
Pathways	Perforin integrates into the cytotoxic T lymphocyte (CTL) and NK cell-mediated cytotoxicity pathways. These pathways include critical interactions with proteins like granzymes and Fas ligand (FasL) which orchestrate the apoptosis of abnormal cells. Through these pathways perforin ensures the body's ability to identify and eliminate threats. The granule exocytosis pathway in particular heavily depends on perforin's activity to execute effective immune responses.
Associated diseases and disorders	Mutations or defects in perforin are linked to familial hemophagocytic lymphohistiocytosis (FHL) and some types of cancer. These conditions arise when perforin's ability to function correctly is impaired. For instance in FHL defective perforin hampers the immune cells' ability to kill target cells leading to uncontrolled immune activation. Furthermore in the context of cancer the proper functioning of perforin alongside proteins like granzyme B is critical for the surveillance and elimination of tumor cells.

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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