abcam

ab307971

Anti-CD3 epsilon antibody [BC3]

Lab Essentials | Recombinant

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	BC3
Purification technique	Affinity purification Protein A
Concentration	1.061 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD3E

Function

Part of the TCR-CD3 complex present on T-lymphocyte cell surface that plays an essential role in adaptive immune response (PubMed:15294938, PubMed:15546002, PubMed:2470098, PubMed:40592325, PubMed:8490660). When antigen presenting cells (APCs) activate T-cell receptor (TCR), TCR-mediated signals are transmitted across the cell membrane by the CD3 chains CD3D, CD3E, CD3G and CD247/CD3Z (PubMed:2470098, PubMed:40592325). All CD3 chains contain immunoreceptor tyrosine-based activation motifs (ITAMs) in their cytoplasmic domain (PubMed:2470098, PubMed:40592325). Upon TCR engagement, these motifs become phosphorylated by Src family protein tyrosine kinases LCK and FYN, resulting in the activation of downstream signaling pathways (PubMed:2470098, PubMed:40592325). CD3E ITAM phosphorylation creates docking sites for the protein kinase ZAP70 leading to ZAP70 phosphorylation and its conversion into a catalytically active enzyme (By similarity). In addition of this role of signal transduction in T-cell activation, CD3E plays an essential role in correct T-cell development (By similarity). Also participates in internalization and cell surface down-regulation of TCR-CD3 complexes via endocytosis sequences present in CD3E cytosolic region (PubMed:10384095, PubMed:26507128). In addition to its role as a TCR coreceptor, it serves as a receptor for ITPRIPL1 (PubMed:38614099). Ligand recognition inhibits T-cell activation by promoting interaction with NCK1, which prevents CD3E-ZAP70 interaction and blocks the ERK-NFkB signaling cascade and calcium influx (PubMed:12110186, PubMed:38614099).

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

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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

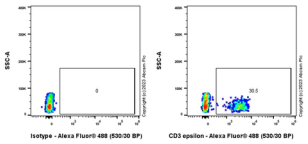
We do not recommend this combination. It is not covered by our product promise.

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.

Full details and terms and conditions can be found here:
Terms & Conditions.

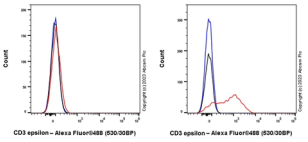
2 product images



Flow Cytometry - Anti-CD3 epsilon antibody [BC3] (ab307971)

CD3 epsilon Flow Cytometry staining of human PBMC (human peripheral blood mononuclear cell) using mouse Anti-CD3 epsilon antibody

Flow cytometric analysis of human PBMC (human peripheral blood mononuclear cell) cells labelling CD3 epsilon with ab307971 at 1/1000 dilution (0.1 ug)/Red compared with a Mouse monoclonal IgG / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti-Mouse IgG (Alexa Fluor® 488, ab150113) at 1/5000 dilution was used as the secondary antibody.



Flow Cytometry - Anti-CD3 epsilon antibody [BC3] (ab307971)

CD3 epsilon Flow Cytometry staining using mouse Anti-CD3 epsilon antibody

Flow cytometric analysis of Raji (human Burkitt's lymphoma B lymphocyte, Left) / Jurkat (human T cell leukemia T lymphocyte from peripheral blood, Right) cells labelling CD3 epsilon with ab307971 at 1/1000 dilution (0.1 ug)/Red compared with a Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti-Mouse IgG (Alexa Fluor® 488, ab150113) at 1/5000 dilution was used as the secondary antibody. Negative control: Raji. Gated on viable cells.

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