abcam

ab243873

Anti-CD3 epsilon antibody [BL-298-5D12]

Lab Essentials | Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human CD3E aa 150 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P07766
Clone number	BL-298-5D12
Purification notes	Recombinant antibody was purified from cell culture supernatant.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	Use 20µl/mg lysate.

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
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	+4°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

This product is sold under License from Bethyl Laboratories, Inc.

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

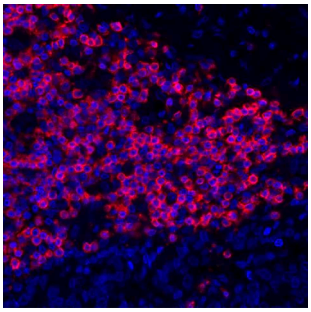
We do not recommend this combination. It is not covered by our product promise.

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.

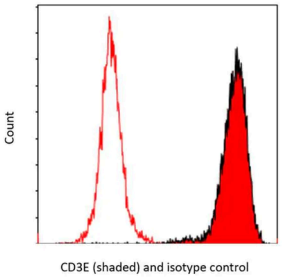
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3 epsilon Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD3 epsilon antibody

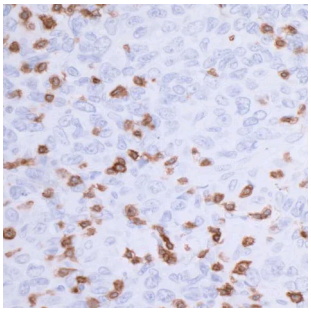
Formalin-fixed, paraffin-embedded human lung carcinoma stained for CD3E using ab243873 at 1/250 dilution in immunohistochemical analysis. A HRP-conjugated goat anti-rabbit IgG was used as the secondary. Opal™ staining.



Flow Cytometry - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

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

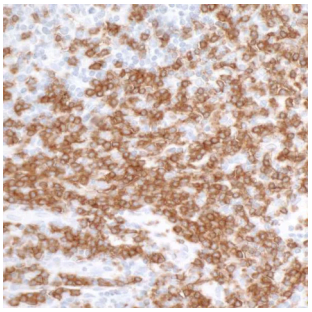
Flow cytometric analysis of Jurkat cells incubated with 1 µL ab243873 (red shaded) or isotype control (unshaded). Cells were fixed with 4% formaldehyde, and permeabilized with 90% methanol. DyLight® 650-conjugated goat anti-rabbit IgG was used as the secondary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3 epsilon Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD3 epsilon antibody

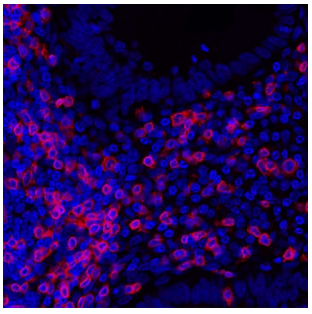
Formalin-fixed, paraffin-embedded human breast carcinoma stained for CD3E using ab243873 in immunohistochemical analysis. A HRP-conjugated goat anti-rabbit IgG was used as the secondary. DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3 epsilon Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD3 epsilon antibody

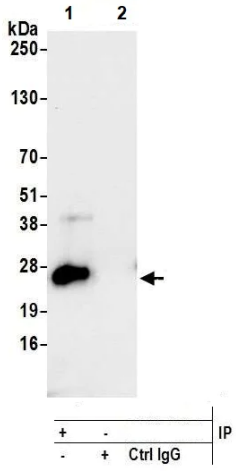
Formalin-fixed, paraffin-embedded human tonsil tissue stained for CD3E using ab243873 in immunohistochemical analysis. A HRP-conjugated goat anti-rabbit IgG was used as the secondary. DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3 epsilon Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD3 epsilon antibody

Formalin-fixed, paraffin-embedded human appendix stained for CD3E using ab243873 at 1/250 dilution in immunohistochemical analysis. A DyLight® 594-conjugated goat anti-rabbit IgG was used as the secondary.



Immunoprecipitation - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3E was immunoprecipitated from 1 mg Jurkat whole cell lysate with ab243873 at 20 µL per reaction. Western blot was performed on the immunoprecipitate using ab243873 at 1/1000 dilution.
Detection: Chemiluminescence.

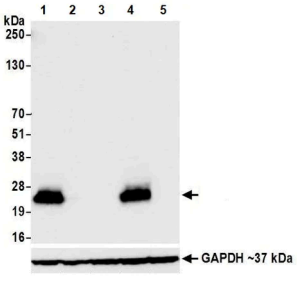
All lanes:
Immunoprecipitation - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873) at 1/1000 dilution

Lane 1:
ab243873 IP in Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate

Lane 2:
Contol IgG in Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate.

Predicted band size: 23 kDa

Exposure time: 3s



Western blot - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873)

CD3 epsilon Western blot staining using rabbit Anti-CD3 epsilon antibody

Detection: chemiluminescence

All lanes:
Western blot - Anti-CD3 epsilon antibody [BL-298-5D12] (ab243873) at 1/1000 dilution

Lane 1:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 50 µg

Lane 2:
K562 (Human chronic myelogenous leukemia lymphoblast cell line) whole cell lysate at 50 µg

Lane 3:
SK-MEL-28 whole cell lysate at 50 µg

Lane 4:
MOLT-4 (Human lymphoblastic leukemia cell line) whole cell lysate at 50 µg

Lane 5:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 50 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG

Predicted band size: 23 kDa

Exposure time: 3s

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