abcam

ab210316

FITC Anti-CD3 epsilon antibody [OKT3]

Anti-CD3 epsilon antibody [OKT3] conjugated to FITC - suitable for flow cytometry, and reacts with human samples. Clone [OKT3] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

Design your panel with our interactive flow cytometry panel builder. Click here.

Lab Essentials

Key facts

Isotype	IgG2a
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: 0.87% Sodium chloride, 0.16% Sodium dihydrogen phosphate, 0.1% Gelatin
Form	Liquid
Clonality	Monoclonal
Clone number	OKT3
Purification technique	Affinity purification
Light chain type	kappa
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	Use 5 uL (1 ug)

Predicted

Species	Chimpanzee
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 conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze, Store in the dark, Store undiluted

Notes

ab210316 is a widely used phenotypic marker for Human T cells. In addition, as the CD3 epsilon subunit of the TCR complex contains intracellular signaling domains, binding of ab210315 to CD3 epsilon can induce cell activation.

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

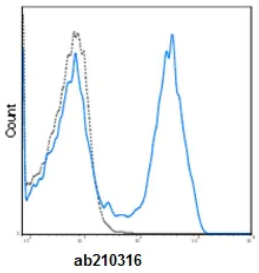
We do not recommend this combination. It is not covered by our product promise.

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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Terms & Conditions.

1 product image



Flow Cytometry - FITC Anti-CD3 epsilon antibody [OKT3] (ab210316)

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

Flow cytometric analysis of Human peripheral blood lymphocyte labeling CD3 epsilon using 5 µl (1 µg) of ab210316 (solid line) and 1 µg of FITC Mouse IgG2a control (dashed line).

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