Datasheet for ABIN457415

anti-CD3 epsilon antibody (Activation Site)

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Overview

Quantity:	100 µg
Target:	CD3 epsilon (CD3E)
Binding Specificity:	Activation Site
Reactivity:	Human, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CD3 epsilon antibody is un-conjugated
Application:	Flow Cytometry (FACS), Western Blotting (WB), Immunoprecipitation (IP), Immunohistochemistry (Frozen Sections) (IHC (fro)), Immunocytochemistry (ICC)

Product Details

Purpose:	Anti-CD3 epsilon (activation epitope) Purified
Immunogen:	Purified human CD3 proteins isolated from thymus
Clone:	APA1-1
Isotype:	IgG1
Specificity:	The mouse monoclonal antibody APA1/1 recognizes an activation-dependent intracellular epitope of CD3 epsilon. Exposure of the epitope precedes CD3 phosphorylation and recruitment and activation of ZAP70, which initiates the signaling cascade produced by T-cell activation. APA1/1 provides the earliest known marker for TCR-mediated T cell activation.
Cross-Reactivity (Details):	Human, Mouse

Product Details

Purification:	Purified by protein-A affinity chromatography.
Purity:	> 95 % (by SDS-PAGE)

Target Details

Target:	CD3 epsilon (CD3E)
Alternative Name:	CD3 epsilon (CD3E Products)
Background:	CD3 antigen, epsilon polypeptide,CD3 complex is crucial in transducing antigen-recognition signals into the cytoplasm of T cells and in regulating the cell surface expression of the TCR complex. T cell activation through the antigen receptor (TCR) involves the cytoplasmic tails of the CD3 subunits CD3 gamma, CD3 delta, CD3 epsilon and CD3 zeta. These CD3 subunits are structurally related members of the immunoglobulins super family encoded by closely linked genes on human chromosome 11. The CD3 components have long cytoplasmic tails that associate with cytoplasmic signal transduction molecules. This association is mediated at least in part by a double tyrosine-based motif present in a single copy in the CD3 subunits. CD3 may play a role in TCR-induced growth arrest, cell survival and proliferation.,CD3 epsilon chain, T3E, IMD18
Gene ID:	916
UniProt:	P07766
Pathways:	TCR Signaling, CXCR4-mediated Signaling Events, Ubiquitin Proteasome Pathway

Application Details

Application Notes:	Flow cytometry: Intracellular staining, recommended dilution: 1-4 µg/mL, positive control: human T cells stimulated with anti-CD3 (MEM-57) antibody (1 µg/mL). Sample preparation: At the end of stimulation of T cells, perform staining of surface markers (if required) in PBS + 0.1 % BSA for 20 min. on ice. Wash with PBS and fix with 2 % formaldehyde, 30 min on ice. Wash with PBS and incubate in PBS + 0,1 % saponine, 5 min. RT. Incubate the cells in PBS + 1 % BSA + 0.03 % saponine, 15 min. on ice. Incubate with fluorescence-labeled APA1/1 antibody (1-2 µg/mL) in PBS + 1 % BSA + 0.03 % saponine in dark, 20 min. RT. Wash with PBS + 1 % BSA + 0.03 % saponine, resuspend in PBS. Immunocytochemistry: Fixed and permeabilised cells. The antibody can distinguish TCR-stimulated from non-stimulated cells.
Restrictions:	For Research Use only

Handling

Concentration:	1 mg/mL
Buffer:	Phosphate buffered saline (PBS), pH 7.4, 15 mM sodium azide
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	**Do not freeze.**
Storage:	4 °C
Storage Comment:	Store at 2-8°C. Do not freeze.

Publications

Product cited in:

Tailor, Tsai, Shameli, Serra, Wang, Robbins, Nagata, Szymczak-Workman, Vignali, Santamaria: " The proline-rich sequence of CD3epsilon as an amplifier of low-avidity TCR signaling." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 181, Issue 1, pp. 243-55, (2008) (PubMed).

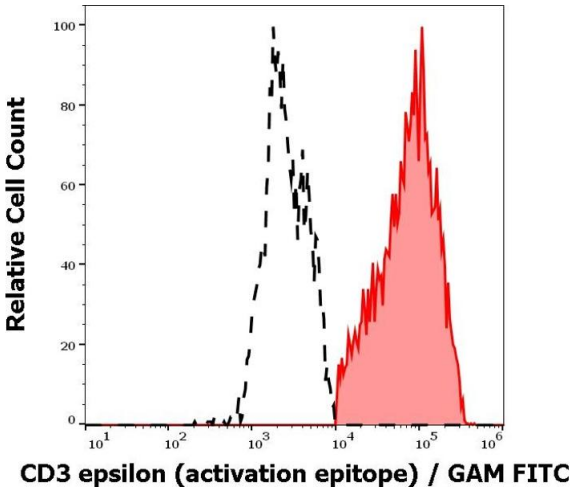
Wong, Dutly, Sacher, Lee, Hwang, Liu, Keshavjee, Hu, Waddell: "Targeted cell replacement with bone marrow cells for airway epithelial regeneration." in: **American journal of physiology. Lung cellular and molecular physiology**, Vol. 293, Issue 3, pp. L740-52, (2007) (PubMed).

Rieux-Laucat, Hivroz, Lim, Mateo, Pellier, Selz, Fischer, Le Deist: "Inherited and somatic CD3zeta mutations in a patient with T-cell deficiency." in: **The New England journal of medicine**, Vol. 354 , Issue 18, pp. 1913-21, (2006) (PubMed).

Gil, Schrum, Alarcón, Palmer: "T cell receptor engagement by peptide-MHC ligands induces a conformational change in the CD3 complex of thymocytes." in: **The Journal of experimental medicine**, Vol. 201, Issue 4, pp. 517-22, (2005) (PubMed).

Torres, Alcover, Zapata, Arnaud, Pacheco, Martín-Fernández, Villasevil, Sanal, Regueiro: "TCR dynamics in human mature T lymphocytes lacking CD3 gamma." in: **Journal of immunology (Baltimore, Md. : 1950)**, Vol. 170, Issue 12, pp. 5947-55, (2003) (PubMed).

There are more publications referencing this product on: Product page



Flow Cytometry

Image 1. Separation of Jurkat cells stained anti-human CD3 activation epitope (APA1/1) purified antibody (concentration in sample 5 µg/mL, GAM FITC, red-filled) from Jurkat cells unstained by primary antibody (GAM FITC, black-dashed) in flow cytometry analysis (intracellular staining).