



1P-599-C025

## Monoclonal Antibody to CD3 activation epitope Phycoerythrin (PE) conjugated (0.025 mg)

<b>Clone:</b>	APA1/1
<b>Isotype:</b>	Mouse IgG1
<b>Specificity:</b>	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.
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Purified human CD3 proteins isolated from thymus
<b>Species Reactivity:</b>	Human, Mouse
<b>Preparation:</b>	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography.
<b>Concentration:</b>	0.1 mg/ml
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis. Suggested working dilution is 5 microgram/ml. Indicated dilution is recommended starting point for use of this product. Working concentrations should be determined by the investigator.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	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.

**For laboratory research only, not for drug, diagnostic or other use.**

**Antibodies****References:**

- \*Alarcón B, Ley SC, Sánchez-Madrid F, Blumberg RS, Ju ST, Fresno M, Terhorst C: The CD3-gamma and CD3-delta subunits of the T cell antigen receptor can be expressed within distinct functional TCR/CD3 complexes. *EMBO J.* 1991 Apr;10(4):903-12.
- \*Wong AP, Dutly AE, Sacher A, Lee H, Hwang DM, Liu M, Keshavjee S, Hu J, Waddell TK: Targeted cell replacement with bone marrow cells for airway epithelial regeneration. *Am J Physiol Lung Cell Mol Physiol.* 2007 Sep;293(3):L740-52.
- \*Torres PS, Alcover A, Zapata DA, Arnaud J, Pacheco A, Martín-Fernández JM, Villasevil EM, Sanal O, Regueiro JR: TCR dynamics in human mature T lymphocytes lacking CD3 gamma. *J Immunol.* 2003 Jun 15;170(12):5947-55.
- \*Rieux-Laucat F, Hivroz C, Lim A, Mateo V, Pellier I, Selz F, Fischer A, Le Deist F: Inherited and somatic CD3zeta mutations in a patient with T-cell deficiency. *N Engl J Med.* 2006 May 4;354(18):1913-21.
- \*Tailor P, Tsai S, Shamel A, Serra P, Wang J, Robbins S, Nagata M, Szymczak-Workman AL, Vignali DA, Santamaria P: The proline-rich sequence of CD3epsilon as an amplifier of low-avidity TCR signaling. *J Immunol.* 2008 Jul 1;181(1):243-55.
- \*Delgado P, Fernández E, Dave V, Kappes D, Alarcón B: CD3delta couples T-cell receptor signalling to ERK activation and thymocyte positive selection. *Nature.* 2000 Jul 27;406(6794):426-30.
- \*Risueño RM, Gil D, Fernández E, Sánchez-Madrid F, Alarcón B: Ligand-induced conformational change in the T-cell receptor associated with productive immune synapses. *Blood.* 2005 Jul 15;106(2):601-8.
- \*Gil D, Schrum AG, Alarcón B, Palmer E: T cell receptor engagement by peptide-MHC ligands induces a conformational change in the CD3 complex of thymocytes. *J Exp Med.* 2005 Feb 21;201(4):517-22.
- \*Risueño RM, van Santen HM, Alarcón B: A conformational change senses the strength of T cell receptor-ligand interaction during thymic selection. *Proc Natl Acad Sci U S A.* 2006 Jun 20;103(25):9625-30.
- \*And other.

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