

1Y-202-T025

Monoclonal Antibody to CD3 PE-Dyomics 647 (PE-DY647) conjugated (25 tests)

Clone:	MEM-57
Isotype:	Mouse IgG2a
Specificity:	The antibody MEM-57 reacts with gamma-epsilon and delta-epsilon dimers of human CD3 complex, a part of a bigger multisubunit T cell receptor complex (CD3/TCR) expressed on peripheral blood T lymphocytes and mature thymocytes. HLDA IV.; WS Code T 96
Immunogen:	Human thymocytes and T lymphocytes.
Species Reactivity:	Human
Preparation:	The purified antibody is conjugated with tandem dye PE-Dyomics 647 (PE-DY647) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
Storage / Stability:	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. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	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. The CD3 antigen is present on 68-82% of normal peripheral blood lymphocytes, 65-85% of thymocytes and Purkinje cells in the cerebellum. It is never expressed on B or NK cells. Decreased percentages of T lymphocytes may be observed in some autoimmune diseases.

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

**Antibodies****References:**

- *Huang Y, Wange RL: T cell receptor signaling: beyond complex complexes. *J Biol Chem.* 2004 Jul 9;279(28):28827-30.
- *Kuhns MS, Davis MM, Garcia KC: Deconstructing the form and function of the TCR/CD3 complex. *Immunity.* 2006 Feb;24(2):133-9.
- *Alarcón B, Swamy M, van Santen HM, Schamel WW: T-cell antigen-receptor stoichiometry: pre-clustering for sensitivity. *EMBO Rep.* 2006 May;7(5):490-5.
- *Leukocyte Typing III., McMichael M.J. et al. (Eds.), Oxford University Press (1987); p.611.
- *Horejsi V. et al.: Monoclonal antibodies against human leucocyte antigens. II. Antibodies against CD45 (T200), CD3 (T3), CD43, CD10 (CALLA), transferrin receptor (T9), a novel broadly expressed 18-kDa antigen (MEM-43) and a novel antigen of restricted expression (MEM-74). *Folia Biol. (Praha)* 34, 23 (1988).
- *Soucek J, Hilgert I, Budová I, Lindnerová G: Augmentation of NK cell activity and proliferation in cultured lymphocytes of leukemic patients by monoclonal antibodies CD3 and interleukin-2. *Neoplasma.* 1994;41(2):75-81.
- *Soucek J, Chudomel V, Hrubá A, Lindnerová G: Induction of NK and LAK activities in human lymphocyte culture by a cytosol fraction from leukemic myeloblasts and by monoclonal antibody CD 3. *Neoplasma.* 1991;38(1):33-41.
- *Brdicková N, Brdicka T, Angelisová P, Horváth O, Spicka J, Hilgert I, Paces J, Simeoni L, Kliche S, Merten C, Schraven B, Horejsi V: LIME: a new membrane Raft-associated adaptor protein involved in CD4 and CD8 coreceptor signaling. *J Exp Med.* 2003 Nov 17;198(10):1453-62.
- *Drbal K, Moertelmaier M, Holzhauser C, Muhammad A, Fuertbauer E, Howorka S, Hinterberger M, Stockinger H, Schütz GJ: Single-molecule microscopy reveals heterogeneous dynamics of lipid raft components upon TCR engagement. *Int Immunol.* 2007 May;19(5):675-84.
- Panyi G, Bagdány M, Bodnár A, Vámosi G, Szentesi G, Jenei A, Mátyus L, Varga S, Waldmann TA, Gáspár R, Damjanovich S: Colocalization and nonrandom distribution of Kv1.3 potassium channels and CD3 molecules in the plasma membrane of human T lymphocytes. *Proc Natl Acad Sci U S A.* 2003 Mar 4;100(5):2592-7.
- Dave VP, Cao Z, Browne C, Alarcon B, Fernandez-Miguel G, Lafaille J, de la Hera A, Tonegawa S, Kappes DJ: CD3 delta deficiency arrests development of the alpha beta but not the gamma delta T cell lineage. *EMBO J.* 1997 Mar 17;16(6):1360-70.
- *Leukocyte Typing IV., Knapp W. et al. (Eds.), Oxford University Press (1989); p. 293.
- *Hilgert I. et al.: Therapeutic in vivo use of the A1-CD3 monoclonal antibody. *Transplantation* 55, 435 (1993).
- *And other.

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