FT – DZ5151

Mouse anti Human CD3, azide free and low endotoxin

Introduction

CD3 complex is crucial in transducing antigen-recognition signals into the cytopasm 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.

Product Description

Cat#	DZ5151
Specificity	The antibody MEM-92 reacts with epsilon chain of human CD3 complex, a part of a bigger multisubunit complex of the T cell receptor (CD3/TCR) expressed on peripheral blood T lymphocytes and mature thymocytes.
Clone	MEM-92
Isotype	Mouse IgM
Immunogen	Human peripheral blood lymphocytes
Species Reactivity	Human
Application	**Flow Cytometry** – Recommended dilution: 2-10 µg/ml **Immunoprecipitation** **Functional Application** The antibody MEM-92 in solution induces early responses of T-cell activation (tyrosine phosphorylation, calcium elevation, Erk activation and expression of activation antigens), but it is unable to induce T-cell proliferation.
Purity	> 95% (by SDS-PAGE)
Purification	Purified from ascites by thiophilic adsorption-affinity chromatography.
Concentration	1mg/ml
Storage Buffer	Azide free phosphate buffered saline (PBS), approx. pH 7.4; 0.2 µm filter sterilized.

Endotoxin level is less than 0.01 EU/µg of the protein, as determined by the LAL test.

Storage / Stability Store at 2-8°C. Do not use after expiration date stamped on vial label. Do not freeze.

Other Information

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 IV., Knapp W. et al. (Eds.), Oxford University Press (1989). 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.
*Meraner P, Horejsí V, Wolpl A, Fischer GF, Stingl G, Maurer D: Dendritic cells sensitize TCRs through self-MHC-mediated Src family kinase activation. J Immunol. 2007 Feb 15;178(4):2262-71.
*Brdicková N, Brdicka T, Angelisová P, Horváth O, Spicka J, Hilgert I, Paces J, Simeoni L, Kliche S, Merten C, Schraven B, Horejsí 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.
*Batista A, Millán J, Mittelbrunn M, Sánchez-Madrid F, Alonso MA: Recruitment of transferrin receptor to immunological synapse in response to TCR engagement. J Immunol. 2004 Jun 1;172(11):6709-14.
*Stefanová I, Saville MW, Peters C, Cleghorn FR, Schwartz D, Venzon DJ, Weinhold KJ, Jack N, Bartholomew C, Blattner WA, Yarchoan R, Bolen JB, Horak ID: HIV infection--induced posttranslational modification of T cell signaling molecules associated with disease progression. J Clin Invest. 1996 Sep 15;98(6):1290-7.
*Brdicka T, Imrich M, Angelisová P, Brdicková N, Horváth O, Spicka J, Hilgert I, Lusková P, Dráber P, Novák P, Engels N, Wienands J, Simeoni L, Osterreicher J, Aguado E, Malissen M, Schraven B, Horejsí V: Non-T cell activation linker (NTAL):
a transmembrane adaptor protein involved in immunoreceptor signaling. J Exp Med. 2002 Dec 16;196(12):1617-26.
*Stulnig TM, Berger M, Sigmund T, Stockinger H, Horejsí V, Waldhäusl W: Signal transduction via glycosyl phosphatidylinositol-anchored proteins in T cells is inhibited by lowering cellular cholesterol. J Biol Chem. 1997 Aug
1;272(31):19242-7.

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