

Technical Data Sheet

Purified NA/LE Rat Anti-Mouse CD4

Product Information

Material Number:	553726
Alternate Name:	L3T4
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	GK1.5
Immunogen:	Mouse CTL clone V4
Isotype:	Rat (LEW) IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2 μ m sterile filtered. Endotoxin level is ≤ 0.01 EU/ μ g (≤ 0.001 ng/ μ g) of protein as determined by the LAL assay.

Description

The GK1.5 clone has been reported to react with the CD4 (L3T4) differentiation antigen expressed on most thymocytes, a subpopulation of mature T lymphocytes (i.e., MHC class II-restricted T cells, including most T helper cells), and a subset of NK-T cells. In addition, CD4 has also been reported to be detectable on pluripotent hematopoietic stem cells, bone marrow myeloid and B-lymphocyte precursors, intrathymic lymphoid precursors, and a subset of splenic dendritic cells. CD4 has also been reported to be expressed on the plasma membrane of mouse egg cells and is involved in adhesion of the egg to MHC class II-bearing sperm. CD4 is an antigen coreceptor on the T-cell surface which interacts with MHC class II molecules on antigen-presenting cells. It participates in T-cell activation through its association with the T-cell receptor complex and protein tyrosine kinase lck. GK1.5 mAb reportedly blocks binding of the RM4-5 (Cat. No. 553046/553047) and H129.19 (Cat. No. 553650/553651), but not RM4-4 (Cat. No. 553055) antibodies.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

This preparation contains no preservatives, thus it should be handled under aseptic conditions.

Application Notes

Application

Flow cytometry	Routinely Tested
(Co)-stimulation	Reported
Blocking	Reported
Depletion	Reported
Immunoprecipitation	Reported
Immunohistochemistry-frozen	Reported

Suggested Companion Products

Catalog Number	Name	Size	Clone
553985	Purified NA/LE Rat IgG2b, κ Isotype Control	0.5 mg	A95-1

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Bosselut R, Zhang W, Ashe JM, Kopacz JL, Samelson LE, Singer A. Association of the adaptor molecule LAT with CD4 and CD8 coreceptors identifies a new coreceptor function in T cell receptor signal transduction. *J Exp Med.* 1999; 190(10):1517-1526. (Biology: (Co)-stimulation, Immunoprecipitation)

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Dialynas DP, Wilde DB, Marrack P, et al. Characterization of the murine antigenic determinant, designated L3T4a, recognized by monoclonal antibody GK1.5: expression of L3T4a by functional T cell clones appears to correlate primarily with class II MHC antigen-reactivity. *Immunol Rev.* 1983; 74:29-56. (Clone-specific: Blocking, Depletion, Immunoprecipitation)

Frederickson GG, Basch RS. L3T4 antigen expression by hemopoietic precursor cells. *J Exp Med.* 1989; 169(4):1473-1478. (Biology)

Ghobrial RR, Boublik M, Winn HJ, Auchincloss H Jr. In vivo use of monoclonal antibodies against murine T cell antigens. *Clin Immunol Immunopathol.* 1989; 52(3):486-506. (Biology)

Grakoui A, Bromley SK, Sumen C, et al. The immunological synapse: a molecular machine controlling T cell activation. *Science.* 1999; 285(5425):221-227. (Biology: Blocking)

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Guo MW, Watanabe T, Mori E, Mori T. Molecular structure and function of CD4 on murine egg plasma membrane. *Zygote*. 1995; 3(1):65-73. (Biology: Blocking)

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Kruisbeek AM. In vivo depletion of CD4- and CD8-specific T cells. In: Coligan JE, Kruisbeek AM, Margulies DH, Shevach EM, Strober W, ed. *Current Protocols in Immunology*. New York: John Wiley and Sons; 1991:4.1.1-4.1.5. (Methodology: Depletion)

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Wineman JP, Gilmore GL, Gritzmacher C, Torbett BE, Muller-Sieburg CE. CD4 is expressed on murine pluripotent hematopoietic stem cells. *Blood*. 1992; 180(7):1717-1724. (Biology)

Zheng B, Han S, Kelsoe G. T helper cells in murine germinal centers are antigen-specific emigrants that downregulate Thy-1. *J Exp Med*. 1996; 184(3):1083-1091. (Biology: Immunohistochemistry)