

Technical Data Sheet

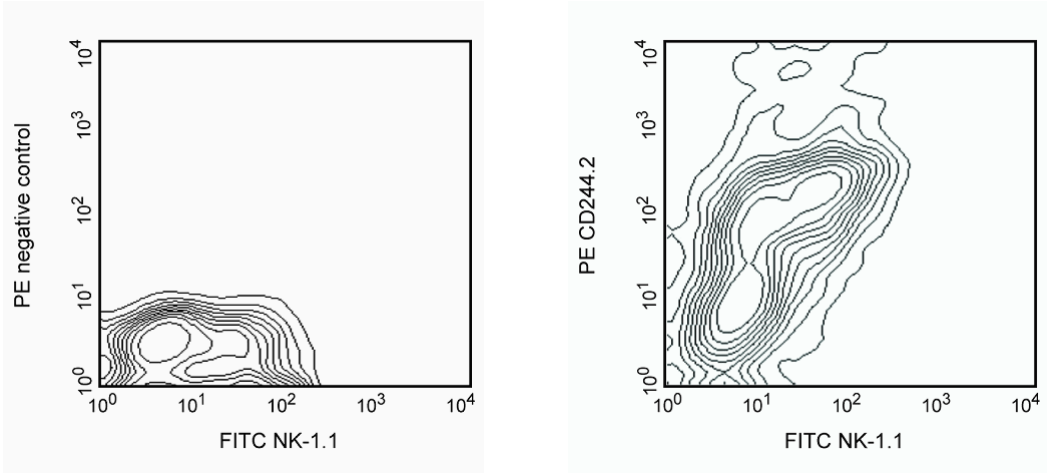
PE Mouse Anti-Mouse CD244.2

Product Information

Material Number:	553306
Alternate Name:	2B4 B6 Alloantigen
Size:	0.2 mg
Concentration:	0.2 mg/ml
Clone:	2B4
Immunogen:	rIL-2-propagated NK1.1+ cells from C57BL/6 mice
Isotype:	Mouse (129) IgG2b, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

CD244 is a member of the CD2 subset of the immunoglobulin superfamily (CD2 IgSF). It is expressed on all natural killer (NK) cells, IL-2-activated NK (LAK) cells, committed progenitors of NK cells, and a subset of T lymphocytes which mediate non-MHC-restricted cytotoxicity, including dendritic epidermal T cells. The 2B4 antibody reacts with CD244.2, the 2B4 alloantigen which is expressed on C57BL/6 and C58/J mice, but not in most strains tested (A/J, AKR, BALB/c, CBA/J, CBA/N, C3H/He, C57BR, DBA/1, DBA/2, NZB, SJL/J, 129). At least two isoforms of CD244.2 protein, products of alternative splicing of hnRNA, are expressed on IL-2-activated C57BL/6 NK cells. They differ only in their cytoplasmic domains; with 2B4L (150-aa cytoplasmic tail) having inhibitory activity and 2B4S (93-aa tail) being stimulatory. The extracellular domain of CD244 is a ligand for another CD2 IgSF member, CD48. 2B4 antibody activates lytic and secretory functions of IL-2-cultured NK cells and CD244.2+ T cells.



Two-color analysis of CD244.2 expression on LAK cells. C57BL/6 LAK cells were simultaneously stained with FITC-conjugated PK136 (anti-mouse NK-1.1, Cat. No. 553164, both panels) and PE-conjugated 2B4 (right panel) monoclonal antibodies. Flow cytometry was performed on a BD FACScan™ System (BD Biosciences, San Jose, CA).

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed. Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
553164	FITC Mouse Anti-Mouse NK-1.1	0.5 mg	PK136
559529	PE Mouse IgG2b, κ Isotype Control	0.1 mg	MPC-11

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Brown MH, Boles K, van der Merwe PA, Kumar V, Mathew PA, Barclay AN. 2B4, the natural killer and T cell immunoglobulin superfamily surface protein, is a ligand for CD48. *J Exp Med.* 1998; 188(11):2083-2090.(Biology)

Davis SJ, van der Merwe PA. The structure and ligand interactions of CD2: implications for T-cell function. *Immunol Today.* 1996; 17(4):177-187.(Biology)

Garni-Wagner BA, Purohit A, Mathew PA, Bennett M, Kumar V. A novel function-associated molecule related to non-MHC-restricted cytotoxicity mediated by activated natural killer cells and T cells. *J Immunol.* 1993; 151(1):60-70.(Biology)

Kubota K, Katoh H, Muguruma K, Koyama K. Characterization of a surface membrane molecule expressed by natural killer cells in most inbred mouse strains: monoclonal antibody C9.1 identifies an allelic form of the 2B4 antigen. *Immunology.* 1999; 96(3):491-497.(Biology)

Kumaresan PR, Stepp SE, Bennett M, Kumar V, Mathew PA. Molecular cloning of transmembrane and soluble forms of a novel rat natural killer cell receptor related to 2B4. *Immunogenetics.* 2000; 51(4-5):306-313.(Biology)

Latchman Y, McKay PF, Reiser H. Identification of the 2B4 molecule as a counter-receptor for CD48. *J Immunol.* 1998; 161(11):5809-5812.(Biology)

Mathew PA, Garni-Wagner BA, Land K, et al. Cloning and characterization of the 2B4 gene encoding a molecule associated with non-MHC-restricted killing mediated by activated natural killer cells and T cells. *J Immunol.* 1993; 151(10):5328-5337.(Biology)

Rosmaraki EE, Douagi I, Roth C, Colucci F, Cumano A, Di Santo JP. Identification of committed NK cell progenitors in adult murine bone marrow. *Eur J Immunol.* 2001; 31(6):1900-1909.(Biology)

Schatzle JD, Sheu S, Stepp SE, Mathew PA, Bennett M, Kumar V. Characterization of inhibitory and stimulatory forms of the murine natural killer cell receptor 2B4. *Proc Natl Acad Sci U S A.* 1999; 96(7):3870-3875.(Biology)

Schuhmachers G, Ariizumi K, Mathew PA, Bennett M, Kumar V, Takashima A. Activation of murine epidermal gamma delta T cells through surface 2B4. *Eur J Immunol.* 1995; 25(4):1117-1120.(Biology)

Schuhmachers G, Ariizumi K, Mathew PA, Bennett M, Kumar V, Takashima A. 2B4, a new member of the immunoglobulin gene superfamily, is expressed on murine dendritic epidermal T cells and plays a functional role in their killing of skin tumors. *J Invest Dermatol.* 1995; 105(4):592-596.(Biology)

Sentman CL, Hackett J Jr, Moore TA, Tutt MM, Bennett M, Kumar V. Pan natural killer cell monoclonal antibodies and their relationship to the NK1.1 antigen. *Hybridoma.* 1989; 8(6):605-614.(Immunogen)

Stepp SE, Schatzle JD, Bennett M, Kumar V, Mathew PA. Gene structure of the murine NK cell receptor 2B4: presence of two alternatively spliced isoforms with distinct cytoplasmic domains. *Eur J Immunol.* 1999; 29(8):2392-2399.(Biology)