Technical Data Sheet

FITC Rat Anti-Mouse Ly-51

Product Information

Material Number:	**562057**
Alternate Name:	6C3/BP-1 Antigen
Size:	50 µg
Concentration:	0.5 mg/ml
Clone:	6C3
Immunogen:	C57L mouse Pre-B lymphhoma cell line L1-2
Isotype:	Rat (F344) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 6C3 antibody reacts with an epitope of the 6C3/BP-1 (Ly-51) glycoprotein cell-surface differentiation antigen, which was originally identified on pre-B cell lymphomas (spontaneous and chemical- or retrovirus- transformed, *in vitro* and *in vivo*). 6C3/BP-1 is a homodimer cell-surface glycoprotein with 140-kDa subunits which has been identified to possess aminopeptidase A (APA) activity. The same antigen is expressed at high levels on bone marrow stromal cell lines which support *in vitro* B lymphopoieses, on thymic dendritic cells and cortical epithelial cells, and on a wide variety of mouse and rat tissues known to possess APA activity. Subsets of normal bone marrow pre-B and B lymphocytes express low levels of Ly-51, which is rapidly up-regulated on the pre-B cells in the presence of IL-7. A role for the 6C3/BP-1 molecule in the IL-7-driven proliferation of B cell precursors has been postulated. However, B-cell abnormalities were not detected in Ly-51-deficient mice. Mature B lymphocytes, thymocytes, peripheral T lymphocytes, erythroid cells, and myeloid cells (with the exception of thymic dendritic cells) do not express Ly-51. The 6C3 antibody can be used to identify cortical epithelium in frozen sections of thymuses from normal, SCID, and TCR-transgenic mice. It is possible that the low level of 6C3/BP-1 antigen detected, by flow cytometry, on some thymocytes may be passively adsorbed from adjacent epithelial cells during preparation of the cell suspensions.

Preparation and Storage

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

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
553929	FITC Rat IgG2a, κ Isotype Control	0.25 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)

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.
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.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
5. An isotype control should be used at the same concentration as the antibody of interest.

References

Adkins B, Tidmarsh GF, Weissman IL. Normal thymic cortical epithelial cells developmentally regulate the expression of a B-lineage transformation-associated antigen. *Immunity.* 1988; 27(3):180-186. (Biology)
Goverman J, Brabb T, Huseby ES, Farr AG. TCR signaling regulates thymic organization: lessons from TCR-transgenic mice. *Immunol Today.* 1997; 18(5):204-208. (Biology)
Hardy RR, Carmack CE, Shinton SA, Kemp JD, Hayakawa K. Resolution and characterization of pro-B and pre-pro-B cell stages in normal mouse bone marrow. *J Exp Med.* 1991; 173(5):1213-1225. (Biology)
Li L, Wu Q, Wang J, Bucy RP, Cooper MD. Widespread tissue distribution of aminopeptidase A, an evolutionarily conserved ectoenzyme recognized by the BP-1 antibody. *Tissue Antigens.* 1993; 42(5):488-496. (Biology)
Lin Q, Taniuchi I, Kitamura D. T and B cell development in BP-1/6C3/aminopeptidase A-deficient mice. *Int Immunol.* 1998; 160(10):4681-4687. (Biology)
Morse HC 3rd, Tidmarsh GF, Holmes KL. Expression of the 6C3 antigen on murine hematopoietic neoplasms. Association with expression of abl, ras, fes, src, erbB, and Cas NS-1 oncogenes but not with myc. *J Exp Med.* 1987; 165(3):920-925. (Clone-specific)

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Pillemer E, Whitlock C, Weissman IL. Transformation-associated proteins in murine B-cell lymphomas that are distinct from Abelson virus gene products. *Proc Natl Acad Sci U S A.* 1984; 81(14):4434-4438. (Immunogen)
Ramakrishnan L, Wu Q, Yue A, Cooper MD, Rosenberg N. BP-1/6C3 expression defines a differentiation stage of transformed pre-B cells and is not related to malignant potential. *J Immunol.* 1990; 145(5):1603-1608. (Biology)
Sherwood PJ, Weissman IL. The growth factor IL-7 induces expression of a transformation-associated antigen in normal pre-B cells. *Int Immunol.* 1990; 2(5):399-406. (Biology)
Surh CD, Ernst B, Sprent J. Growth of epithelial cells in the thymic medulla is under the control of mature T cells. *J Exp Med.* 1992; 172(2):611-616. (Biology)
Tidmarsh GF, Dailey MO, Whitlock CA, Pillemer E, Weissman IL. Transformed lymphocytes from Abelson-diseased mice express levels of a B lineage transformation-associated antigen elevated from that found on normal lymphocytes. *J Exp Med.* 1985; 162(5):1421-1434. (Clone-specific)
Vremec D, Shortman K. Dendritic cell subtypes in mouse lymphoid organs: cross-correlation of surface markers, changes with incubation, and differences among thymus, spleen, and lymph nodes. *J Immunol.* 1997; 159(2):565-573. (Biology)
Wang J, Cooper MD. Histidine residue in the zinc-binding motif of aminopeptidase A is critical for enzymatic activity. *Proc Natl Acad Sci U S A.* 1990; 90(4):1222-1226. (Biology)
Welch PA. Regulation of B cell precursor proliferation by aminopeptidase A. *Int Immunol.* 1995; 7(5):737-746. (Biology)
Welch PA, Burrows PD, Namen A, Gillis S, Cooper MD. Bone marrow stromal cells and interleukin-7 induce coordinate expression of the BP-1/6C3 antigen and pre-B cell growth. *Int Immunol.* 1990; 2(8):697-705. (Biology)
Wu L, Vremec D, Ardavin C, et al. Mouse thymus dendritic cells: kinetics of development and changes in surface markers during maturation. *Eur J Immunol.* 1995; 25(2):418-425. (Biology)
Wu Q, Lahti JM, Air GM, Burrows PD, Cooper MD. Molecular cloning of the murine BP-1/6C3 antigen: a member of the zinc-dependent metallopeptidase family. *Proc Natl Acad Sci U S A.* 1990; 87(3):993-997. (Biology)
Wu Q, Li L, Cooper MD, Pierres M, Gorvel JP. Aminopeptidase A activity of the murine B-lymphocyte differentiation antigen BP-1/6C3. *Proc Natl Acad Sci U S A.* 1991; 88(2):676-680. (Biology)
Wu Q, Tidmarsh GF, Welch PA, Pierce JH, Weissman IL, Cooper MD. The early B lineage antigen BP-1 and the transformation-associated antigen 6C3 are on the same molecule. *J Immunol.* 1989; 143(10):3303-3308. (Clone-specific)