Technical Data Sheet

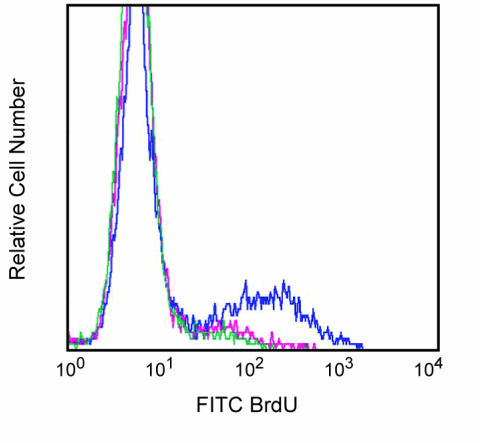
Purified NA/LE Rat Anti-Mouse CD127

Product Information

Material Number:	**550426**
Alternate Name:	IL-7 Receptor α chain
Size:	0.5 mg
Concentration:	1.0 mg/ml
Clone:	SB/14
Immunogen:	BALB/c mouse pre-B cell line 1A9
Isotype:	Rat IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	No azide/low endotoxin: Aqueous buffered solution containing no preservative, 0.2µm sterile filtered. Endotoxin level is ≤0.01 EU/µg (≤0.001 ng/µg) of protein as determined by the LAL assay.

Description

The SB/14 monoclonal antibody reacts with CD127, the 65-75-kDa type-I transmembrane protein IL-7Rα. The high affinity IL-7 receptor complex is composed of at least two transmembrane proteins, IL-7Rα and CD132, the common γ chain. CD127 has some sequence homology to the cytokine receptor superfamily (also known as the hematopoietin receptor superfamily). Interaction between IL-7 and its receptor is important for the proliferation of pre-B lymphocytes and can also trigger proliferation of CD4-CD8- immature thymocytes, as well as mature T cells in the periphery. Mice lacking CD127 display profoundly impaired development of the B and T lymphoid cell lineages, but display no obvious non-lymphoid abnormalities. IL-7Rα is expressed on common lymphoid progenitors and early stages of B lineage development in the bone marrow, on the earliest thymocyte progenitors, on CD4-CD8- double-negative and CD4+ and CD8+ single-positive thymocytes, and on most peripheral T lymphocytes. Intestinal intraepithelial lymphocytes with low-density γδ TCR upregulate CD127 expression in response to IL-2, which may be secreted by neighboring αβ TCR-bearing T cells. The SB/14 mAb neutralizes IL-7-induced proliferation of the IL-7-dependent immature B-lymphocyte line 2E8 (detected by BrdU incorporation).



Blocking of IL-7-induced lymphocyte proliferation. *2E8 cells (mouse immature B lymphocyte cell line) were cultured for 48 hours in the presence of recombinant mouse IL-7 (blue histogram), with mAb SB/14 added 30 minutes prior to IL-7 (red histogram), or in the absence of IL-7 (green histogram). Proliferation was detected by incorporation of bromodeoxyuridine (BrdU) using the BrdU Flow Kit, Cat. No. 559619. Flow cytometry was performed on a FACScan™ (BDIS, San Jose, CA).*

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
Blocking	Reported
Immunohistochemistry	Not Recommended
Immunoprecipitation	Not Recommended
Western blot	Not Recommended

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Recommended Assay Procedure:

Flow cytometry: Since this antigen is expressed at low density on lymphoid cell surfaces, it may be desirable to amplify staining by using a bright second-step reagent. If a three-step method is employed, the use of anti-Mouse CD16/CD32, Mouse Fc Block™ (Cat. No. 553141) is recommended to reduce non-specific staining. Special precaution should be taken to utilize a second-step antibody which does not crossreact with 2.4G2 mAb (rat IgG2b, κ), such as biotinylated anti-rat IgG2a (RG7/1.30, Cat. No. 553894) followed by PE Streptavidin (Cat. No. 554061).

Suggested Companion Products

Catalog Number	Name	Size	Clone
553926	Purified NA/LE Rat IgG2a κ Isotype Control	0.5 mg	R35-95
550767	PE Goat Anti-Rat Ig	0.2 mg	Polyclonal
559619	BrdU Flow Kit- (FITC) Part B	80 tests	(none)
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553894	Biotin Mouse Anti-Rat IgG2a	0.5 mg	RG7/1.30
554061	PE Streptavidin	0.5 mg	(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.

References

Akashi K, Kondo M, Weissman IL. Role of interleukin-7 in T-cell development from hematopoietic stem cells. *Immunol Rev.* 1998; 165:13-28. (Biology)

Borghesi LA, Yamashita Y, Kincade PW. Heparan sulfate proteoglycans mediate interleukin-7-dependent B lymphopoiesis. *Blood.* 1999; 93(1):140-148. (Immunogen)

Faust EA, Saffran DC, Toksoz D, Williams DA, Witte ON. Distinctive growth requirements and gene expression patterns distinguish progenitor B cells from pre-B cells. *J Exp Med.* 1993; 177(4):915-923. (Biology)

Fujihashi K, Kawabata S, Hiroi T, et al. Interleukin 2 (IL-2) and interleukin 7 (IL-7) reciprocally induce IL-7 and IL-2 receptors on gamma delta T-cell receptor-positive intraepithelial lymphocytes. *Proc Natl Acad Sci U S A.* 1996; 93(8):3613-3618. (Biology)

Goodwin RG, Friend D, Ziegler SF et al. Cloning of the human and murine interleukin-7 receptors: demonstration of a soluble form and homology to a new receptor superfamily. *Cell.* 1990; 60(6):941-951. (Biology)

Henderson AJ, Narayanan R, Collins L, Dorshkind K. Status of kappa L chain gene rearrangements and c-kit and IL-7 receptor expression in stromal cell-dependent pre-B cells. *J Immunol.* 1992; 149(6):1973-1979. (Biology)

Noguchi M, Nakamura Y, Russell SM, et al. Interleukin-2 receptor gamma chain: a functional component of the interleukin-7 receptor. *Science.* 1993; 262(5141):1877-1880. (Biology)

Peschon JJ, Morrissey PJ, Grabstein KH, et al. Early lymphocyte expansion is severely impaired in interleukin 7 receptor-deficient mice. *J Exp Med.* 1994; 180(5):1955-1960. (Biology)

Sudo T, Nishikawa S, Ohno N, et al. Expression and function of the interleukin 7 receptor in murine lymphocytes. *Proc Natl Acad Sci U S A.* 1993; 90(19):9125-9129. (Biology)