

## Technical Data Sheet

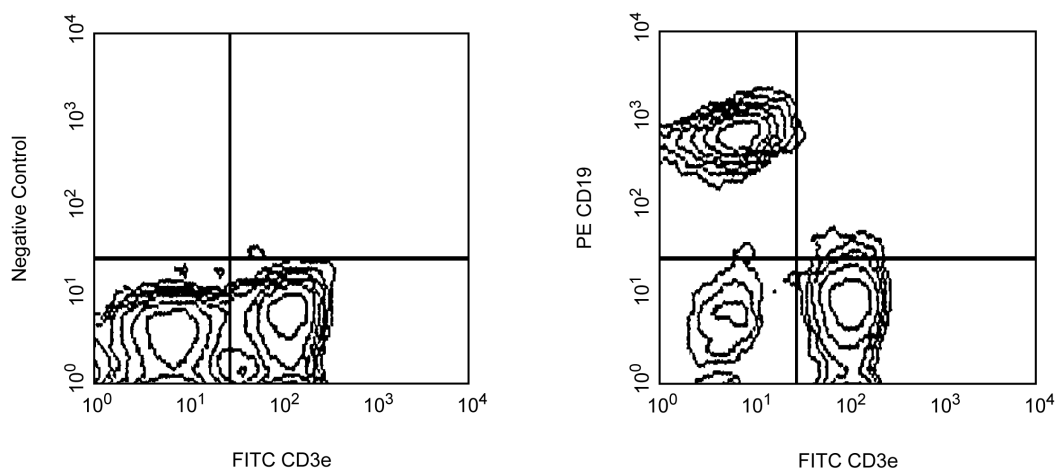
## PE Rat Anti-Mouse CD19

## Product Information

<b>Material Number:</b>	553786
<b>Size:</b>	0.2 mg
<b>Concentration:</b>	0.2 mg/ml
<b>Clone:</b>	1D3
<b>Immunogen:</b>	Mouse CD19 Transfected Cell Line
<b>Isotype:</b>	Rat (LEW) IgG2a, κ
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing ≤0.09% sodium azide.

## Description

The 1D3 antibody reacts with CD19, a B lymphocyte-lineage differentiation antigen. CD19, a 95-kDa transmembrane glycoprotein, is a member of the immunoglobulin superfamily and is expressed throughout B-lymphocyte development from the pro-B cell through the mature B-cell stages. Terminally differentiated plasma cells do not express CD19. On the surface of mature B cells, the CD19 molecule associates with CD21 (CR-2) and CD81 (TAPA-1), and this multimolecular complex synergizes with surface immunoglobulin to promote cellular activation. Studies with CD19-deficient mice have suggested that the level of CD19 expression affects the generation and maturation of B cells in the bone marrow and periphery. B-1 lineage B cells, also known as CD5+ B cells, are drastically reduced or absent in CD19-deficient mice. Increased levels of CD19 expression correlate with increased frequencies of peritoneal and splenic B-1 cells and reduced numbers of conventional B lymphocytes in the periphery. CD19 participates in B-lymphocyte development, B-cell activation, maturation of memory B cells and regulation of tolerance. CD19 has also been detected on peritoneal mast cells, co-localized with CD21/CD35, and it is proposed to play a role in complement-mediated mast-cell activation.



*Two-color analysis of the expression of CD19 on mouse spleen B cells. BALB/c splenocytes were stained with FITC-conjugated anti-mouse CD3e mAb 145-2C11 (Cat. No. 553061) in the absence (left panel) or presence (right panel) of PE-conjugated mAb 1D3. Flow cytometry was performed on a BD FACScan™ flow cytometry system.*

## 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
553061	FITC Hamster Anti-Mouse CD3e	0.1 mg	145-2C11
554714	BD Cytotfix/Cytoperm™ Fixation/Permeablization Kit	250 tests	(none)
553930	PE Rat IgG2a, κ Isotype Control	0.1 mg	R35-95

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## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharming/en/protocols](http://www.bdbiosciences.com/pharming/en/protocols) for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
4. 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

- Engel P, Zhou LJ, Ord DC, Sato S, Koller B, Tedder TF. Abnormal B lymphocyte development, activation, and differentiation in mice that lack or overexpress the CD19 signal transduction molecule. *Immunity*. 1995; 3(1):39-50. (Biology)
- Fearon DT. The CD19-CR2-TAPA-1 complex, CD45 and signaling by the antigen receptor of B lymphocytes. *Curr Opin Immunol*. 1993; 5(3):341-348. (Biology)
- Gommerman JL, Oh DY, Zhou X, et al. A role for CD21/CD35 and CD19 in responses to acute septic peritonitis: a potential mechanism for mast cell activation. *J Immunol*. 2000; 165(12):6915-6921. (Biology)
- Inaoki M, Sato S, Weintraub BC, Goodnow CC, Tedder TF. CD19-regulated signaling thresholds control peripheral tolerance and autoantibody production in B lymphocytes. *J Exp Med*. 1997; 186(11):1923-1931. (Biology)
- Krop I, de Fougerolles AR, Hardy RR, Allison M, Schlissel MS, Fearon DT. Self-renewal of B-1 lymphocytes is dependent on CD19. *Eur J Immunol*. 1996; 26(1):238-242. (Immunogen: Functional assay, Immunoprecipitation)
- Krop I, Shaffer AL, Fearon DT, Schlissel MS. The signaling activity of murine CD19 is regulated during cell development. *J Immunol*. 1996; 157(1):48-56. (Biology: Functional assay)
- Rickert RC, Rajewsky K, Roes J. Impairment of T-cell-dependent B-cell responses and B-1 cell development in CD19-deficient mice. *Nature*. 1995; 376(6538):352-355. (Biology)
- Sato S, Jansen PJ, Tedder TF. CD19 and CD22 expression reciprocally regulates tyrosine phosphorylation of Vav protein during B lymphocyte signaling. *Proc Natl Acad Sci U S A*. 1997; 94(24):13158-13162. (Biology)
- Sato S, Miller AS, Howard MC, Tedder TF. Regulation of B lymphocyte development and activation by the CD19/CD21/CD81/Leu 13 complex requires the cytoplasmic domain of CD19. *J Immunol*. 1997; 159(7):3278-3287. (Biology)
- Sato S, Ono N, Steeber DA, Pisetsky DS, Tedder TF. CD19 regulates B lymphocyte signaling thresholds critical for the development of B-1 lineage cells and autoimmunity. *J Immunol*. 1996; 157(10):4371-4378. (Biology)
- Sato S, Steeber DA, Jansen PJ, Tedder TF. CD19 expression levels regulate B lymphocyte development: human CD19 restores normal function in mice lacking endogenous CD19. *J Immunol*. 1997; 158(10):4662-4669. (Biology)
- Tedder TF, Zhou LJ, Engel P. The CD19/CD21 signal transduction complex of B lymphocytes. *Immunol Today*. 1994; 15(9):437-442. (Biology)