

## Technical Data Sheet

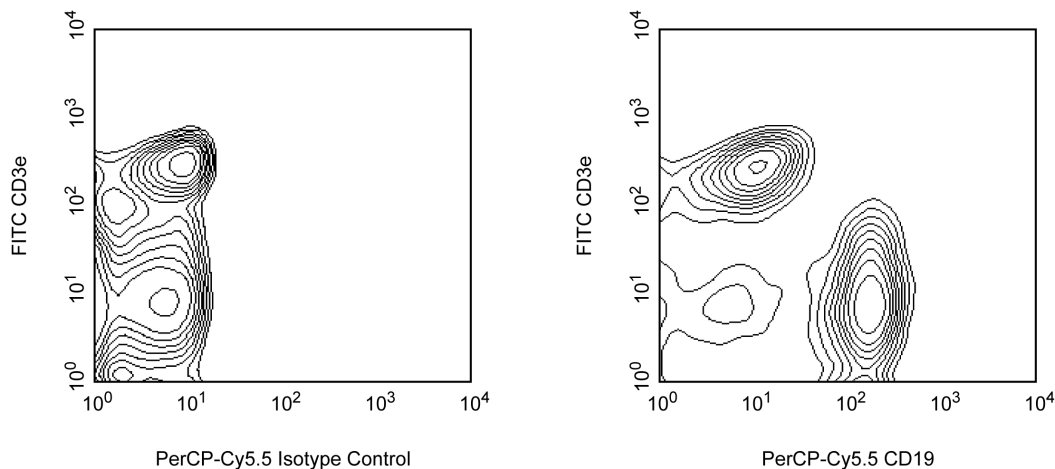
## PerCP-Cy™ 5.5 Rat Anti-Mouse CD19

## Product Information

|                  |   |
|------------------|---|
| Material Number: | 561113  |
| Size:            | 25 µg   |
| Concentration:   | 0.2 mg/ml   |
| Clone:           | 1D3   |
| Immunogen:       | Mouse CD19 Transfected Cell Line                          |
| Isotype:         | Rat (LEW) IgG2a, κ  |
| Reactivity:      | QC Testing: Mouse   |
| Storage Buffer:  | 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 simultaneously stained with FITC-conjugated anti-mouse CD3e mAb 145-2C11 (Cat. No. 553061) and either PerCP-Cy5.5-conjugated rat IgG2ak isotype control mAb R35-95 (Cat. No. 550765, left panel) or mAb 1D3 (right panel), in the presence of Mouse BD Fc Block™ purified anti-mouse CD16/CD32 mAb 2.4G2 (Cat. No. 553141). Flow cytometry was performed on a BD FACSCalibur™ 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 PerCP-Cy5.5 under optimum conditions, and unconjugated antibody and free PerCP-Cy5.5 were removed. Storage of PerCP-Cy5.5 conjugates in unoptimized diluent is not recommended and may result in loss of signal intensity. Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

## 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/](http://bdbiosciences.com/how_to_order/)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

BD, BD Logo and all other trademarks are the property of Becton, Dickinson and Company. ©2011 BD



## Application Notes

### Application

Flow cytometry

Routinely Tested

### Suggested Companion Products

| <u>Catalog Number</u> | <u>Name</u>  | <u>Size</u> | <u>Clone</u> |
|-----------------------|--|-------------|--------------|
| 553061                | FITC Hamster Anti-Mouse CD3e   | 0.1 mg      | 145-2C11     |
| 550765                | PerCP-Cy <sup>TM</sup> 5.5 Rat IgG2a, $\kappa$ Isotype Control       | 0.1 mg      | R35-95       |
| 553141                | Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block <sup>TM</sup> ) | 0.1 mg      | 2.4G2        |

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [wwwbdbiosciences.com/pharming/protocols](http://wwwbdbiosciences.com/pharming/protocols) for technical protocols.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [wwwbdbiosciences.com/colors](http://wwwbdbiosciences.com/colors).
4. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
5. 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.
6. PerCP-Cy5.5-labelled antibodies can be used with FITC- and R-PE-labelled reagents in single-laser flow cytometers with no significant spectral overlap of PerCP-Cy5.5, FITC, and R-PE fluorescence.
7. PerCP-Cy5.5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using dual-laser cytometers, which may directly excite both PerCP and Cy5.5<sup>TM</sup>. We recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
8. This product is subject to proprietary rights of Amersham Biosciences Corp. and Carnegie Mellon University and made and sold under license from Amersham Biosciences Corp. This product is licensed for sale only for research. It is not licensed for any other use. If you require a commercial license to use this product and do not have one return this material, unopened to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121 and any money paid for the material will be refunded.

### References

- 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)
- 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)
- 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)