

## Technical Data Sheet

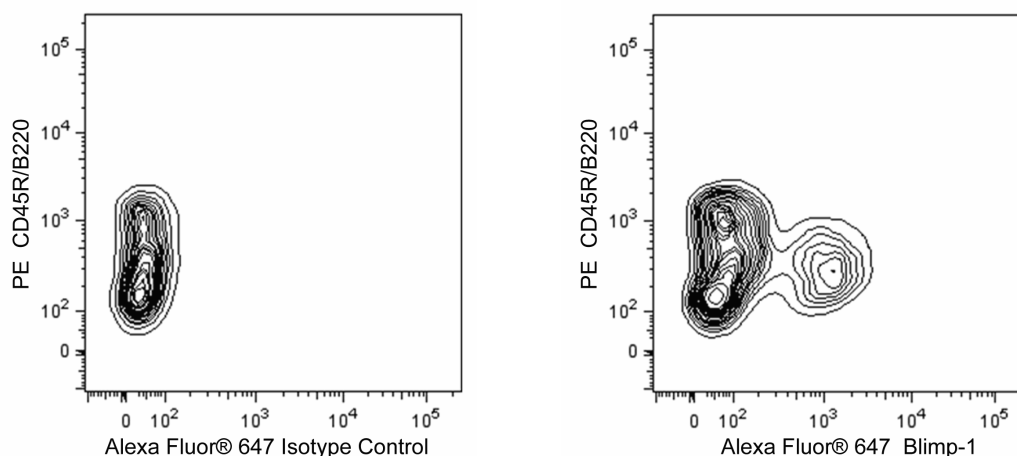
## Alexa Fluor® 647 Rat Anti-Mouse Blimp-1

## Product Information

|                  |                                                                         |
|------------------|-------------------------------------------------------------------------|
| Material Number: | 563643                                                                  |
| Alternate Name:  | Prdm1; PR domain zinc finger protein 1; Blimp1; PRDI-BF1; ZNFPR1A1      |
| Size:            | 50 µg                                                                   |
| Concentration:   | 0.2 mg/ml                                                               |
| Clone:           | 5E7                                                                     |
| Immunogen:       | Mouse Blimp-1 Recombinant Protein                                       |
| Isotype:         | Rat IgG2a, κ                                                            |
| Reactivity:      | QC Testing: Mouse<br>Lack of Reactivity Confirmed in Development: Human |
| Storage Buffer:  | Aqueous buffered solution containing ≤0.09% sodium azide.               |

## Description

The 5E7 monoclonal antibody specifically binds to mouse B lymphocyte-induced maturation protein 1 (Blimp-1). Blimp-1 is a 98 kDa zinc finger-containing protein that is encoded by the *Prdm1* gene and functions as a transcriptional repressor. Blimp-1 is essential for regulating the terminal differentiation of activated B cells into plasma cells. In this process, Blimp-1 suppresses genes involved in B cell proliferation, such as *Myc* and *Bcl6*. It controls other genes, such as *Xbp1*, that are required for upregulating the plasma cell's protein synthesis machinery which is essential for antibody production and secretion. Blimp-1 is an important regulator in other cell types as well. It functions in the regulation of T cell activation and homeostasis and NK cell maturation. Blimp-1 is expressed in activated T cells and can function to inhibit IL-2 production while enhancing the differentiation and expression of several molecules produced by effector T cells.



**Two color flow cytometric analysis of Blimp-1 expression in activated mouse splenocytes.** BALB/c splenic leucocytes were stimulated for 3 days with lipopolysaccharide and stained with PE Rat Anti-Mouse CD45R/B220 antibody (Cat.No. 553089/553090/561878). The cells were subsequently fixed and permeabilized with the BD Pharmingen™ Transcription Factor Buffer Set (Cat. No. 562574/562725) and stained with either Alexa Fluor® 647 Rat IgG2a, κ Isotype Control (Cat.No. 557690; Left Panel) or Alexa Fluor® 647 Rat Anti-Mouse Blimp-1 antibody (Cat. No. 563643; Right Panel). The two-color flow cytometric contour plots show the correlated expression patterns of Blimp-1 (or Ig Isotype control staining) versus CD45R/B220 for gated events with the forward and side light-scatter characteristics of intact activated splenocytes. Unstimulated splenocytes show a staining pattern similar to Ig Isotype stained cells (data not shown). Flow cytometric analysis was performed using a BD FACSCanto™ II Flow Cytometry System.

## 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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

## BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

| United States | Canada       | Europe        | Japan        | Asia Pacific | Latin America/Caribbean |
|---------------|--------------|---------------|--------------|--------------|-------------------------|
| 877.232.8995  | 800.979.9408 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995         |

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

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.

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



## Application Notes

### Application

Intracellular staining (flow cytometry)

Routinely Tested

### Suggested Companion Products

| Catalog Number | Name                                          | Size      | Clone   |
|----------------|-----------------------------------------------|-----------|---------|
| 554656         | Stain Buffer (FBS)                            | 500 ml    | (none)  |
| 557690         | Alexa Fluor® 647 Rat IgG2a, κ Isotype Control | 0.1 mg    | R35-95  |
| 562574         | Transcription Factor Buffer Set               | 100 tests | (none)  |
| 562725         | Transcription Factor Buffer Set               | 25 tests  | (none)  |
| 553089         | PE Rat Anti-Mouse CD45R/B220                  | 0.1 mg    | RA3-6B2 |
| 553090         | PE Rat Anti-Mouse CD45R/B220                  | 0.2 mg    | RA3-6B2 |
| 561878         | PE Rat Anti-Mouse CD45R/B220                  | 25 µg     | RA3-6B2 |

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
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.
5. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
8. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

### References

Crotty S, Johnston RJ, Schoenberger SP. Effectors and memories: Bcl-6 and Blimp-1 in T and B lymphocyte differentiation. *Nat Immunol.* 2010; 11(2):114-120. (Biology)

Huang S. Blimp-1 is the murine homolog of the human transcriptional repressor PRDI-BF1. *Cell.* 1994; 78(1):9. (Biology)

Johnston RJ, Poholek AC, DiToro D, et al. Bcl6 and Blimp-1 are reciprocal and antagonistic regulators of T follicular helper cell differentiation. *Science.* 2010; 325(5943):1006-1010. (Biology)

Kallies A, Carotta S, Huntington ND, et al. A role for Blimp1 in the transcriptional network controlling natural killer cell maturation. *Blood.* 2011; 117(6):1869-1879. (Immunogen: Western blot)

Kallies A, Hasbold J, Tarlinton DM, et al. Plasma cell ontogeny defined by quantitative changes in blimp-1 expression. *J Exp Med.* 2004; 200(8):967-977. (Biology)

Kallies A, Hawkins ED, Belz GT, et al. Transcriptional repressor Blimp-1 is essential for T cell homeostasis and self-tolerance. *Nat Immunol.* 2006; 7(5):466-474. (Biology)

Kim SJ, Gregersen PK, Diamond B. Regulation of dendritic cell activation by microRNA let-7c and BLIMP1. *J Clin Invest.* 2013; 123(2):823-833. (Biology)

Martins GA, Cimmino L, Liao J, Magnusdottir E, Calame K. Blimp-1 directly represses Il2 and the Il2 activator Fos, attenuating T cell proliferation and survival. *J Exp Med.* 2008; 205(9):1959-1965. (Biology)

Turner CA Jr, Mack DH, Davis MM. Blimp-1, a novel zinc finger-containing protein that can drive the maturation of B lymphocytes into immunoglobulin-secreting cells. *Cell.* 1994; 77(2):297-306. (Biology)

### BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

|               |              |               |              |              |                         |
|---------------|--------------|---------------|--------------|--------------|-------------------------|
| United States | Canada       | Europe        | Japan        | Asia Pacific | Latin America/Caribbean |
| 877.232.8995  | 800.979.9408 | 32.53.720.550 | 0120.8555.90 | 65.6861.0633 | 55.11.5185.9995         |

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

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.

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

