

## Technical Data Sheet

## Purified Mouse Anti-Rat CD3

## Product Information

|                         |   |
|-------------------------|---|
| <b>Material Number:</b> | <b>559974</b>   |
| <b>Size:</b>            | 0.1 mg  |
| <b>Concentration:</b>   | 0.5 mg/ml   |
| <b>Clone:</b>           | G4.18   |
| <b>Immunogen:</b>       | PHA-stimulated rat lymph node and spleen cells  |
| <b>Isotype:</b>         | Mouse (BALB/c) IgG3, $\kappa$   |
| <b>Reactivity:</b>      | QC Testing: Rat   |
| <b>Storage Buffer:</b>  | Aqueous buffered solution containing protein stabilizer and $\leq 0.09\%$ sodium azide. |

## Description

The G4.18 antibody reacts with the T-cell receptor-associated CD3 cell-surface antigen found on thymocytes, peripheral T lymphocytes, and dendritic epidermal T cells. It has been reported that CD3 expression is down-regulated within 24 hours in concanavalin A-stimulated rat T cells, and soluble mAb inhibits the allogeneic mixed-lymphocyte proliferative response and cell-mediated cytotoxicity to allogeneic target cells. In vivo treatment with G4.18 mAb prevents cardiac and skin allograft rejection, resulting in donor-specific tolerance. Pre-incubation of splenocytes with the alternate anti-rat CD3 monoclonal antibody, 1F4 (Cat. No. 556970), blocks staining with mAb G4.18.

## Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

## Application Notes

## Application

|                             |                  |
|-----------------------------|------------------|
| Flow cytometry              | Routinely Tested |
| Cytotoxicity                | Reported         |
| Immunoprecipitation         | Reported         |
| (Co)-stimulation            | Reported         |
| Inhibition                  | Reported         |
| Immunohistochemistry-frozen | Reported         |
| Immunofluorescence          | Reported         |
| Western blot                | Reported         |

## Recommended Assay Procedure:

For IHC, we recommend the use of purified G4.18 mAb in our special formulation for immunohistochemistry, Cat. No. 550295.

## Suggested Companion Products

| Catalog Number | Name  | Size   | Clone      |
|----------------|---|--------|------------|
| 554838         | PE Mouse Anti-Rat CD4                         | 0.2 mg | OX-35      |
| 559976         | PE Mouse Anti-Rat CD8a                        | 0.1 mg | OX-8       |
| 553403         | FITC Rat Anti-Mouse IgG3                      | 0.5 mg | R40-82     |
| 554001         | FITC Goat Anti-Mouse Ig                       | 0.5 mg | Polyclonal |
| 553486         | Purified Mouse IgG3, $\kappa$ Isotype Control | 0.5 mg | A112-3     |
| 555988         | FITC Goat Anti-Mouse IgG/IgM                  | 0.5 mg | Polyclonal |

## 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         |

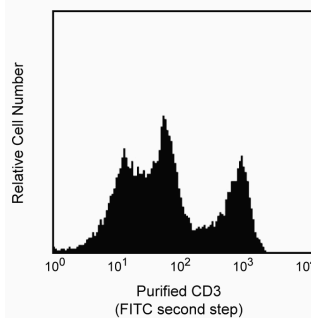
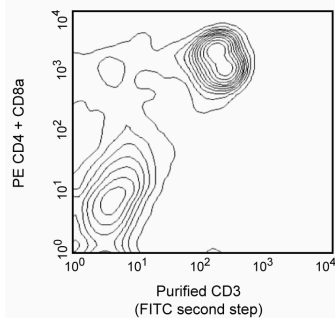
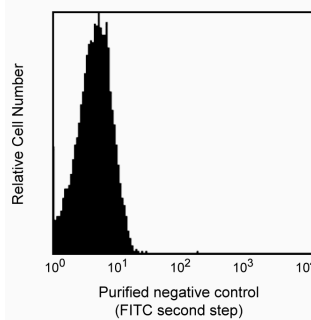
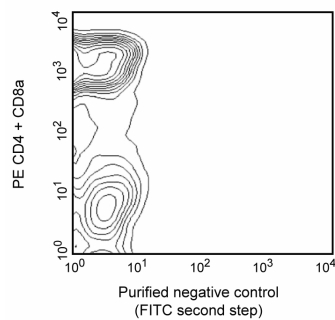
For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

*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





**CD3e expression in spleen and thymus.** LOU splenocytes were simultaneously stained with PE Mouse Anti-Rat CD4 (Cat. No. 554838, left panels), PE Mouse Anti-Rat CD8a (Cat. No. 559976/554857, left panels) and Purified Mouse Anti-Rat CD3 (bottom left panel) monoclonal antibodies, followed by FITC Rat Anti-Mouse IgG3 (Cat. No. 553403, left panels). Please note that CD3- CD4+ monocytes and CD3- CD8a+ NK cells may be found in the rat spleen. LOU thymocytes were stained with Purified Mouse Anti-Rat CD3 mAb (bottom right panel), followed by FITC Goat Anti-Mouse Ig (Cat. No. 554001, right panels). Flow cytometry was performed on a BD FACScan™ flow cytometry system.

## 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](http://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. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
5. An isotype control should be used at the same concentration as the antibody of interest.
6. 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).

## References

Brenan M, Rees DJ. Sequence analysis of rat integrin alpha E1 and alpha E2 subunits: tissue expression reveals phenotypic similarities between intraepithelial lymphocytes and dendritic cells in lymph. *Eur J Immunol.* 1997; 27(11):3070-3079. (Clone-specific: Immunofluorescence, Western blot)

Morris DL, Komocsar WJ. Immunophenotyping analysis of peripheral blood, splenic, and thymic lymphocytes in male and female rats. *J Pharmacol Toxicol Methods.* 1997; 37(1):37-46. (Clone-specific)

Naper C, Vaage JT, Lambricht D, et al. Alloreactive natural killer cells in the rat: complex genetics of major histocompatibility complex control. *Eur J Immunol.* 1995; 25(5):1249-1256. (Clone-specific: Cytotoxicity)

Nelson DJ, McMenamin C, McWilliam AS, Brenan M, Holt PG. Development of the airway intraepithelial dendritic cell network in the rat from class II major histocompatibility (Ia)-negative precursors: differential regulation of Ia expression at different levels of the respiratory tract. *J Exp Med.* 1994; 179(1):203-212. (Clone-specific: Immunohistochemistry)

Nicolls MR, Aversa GG, Pearce NW, et al. Induction of long-term specific tolerance to allografts in rats by therapy with an anti-CD3-like monoclonal antibody. *Transplantation.* 1993; 55(3):459-468. (Immunogen: (Co)-stimulation, Flow cytometry, Immunohistochemistry, Immunoprecipitation, Inhibition, Stimulation)

Strickland D, Kees UR, Holt PG. Regulation of T-cell activation in the lung: alveolar macrophages induce reversible T-cell anergy in vitro associated with inhibition of interleukin-2 receptor signal transduction. *Immunology.* 1996; 87(2):250-258. (Biology)

Upham JW, Strickland DH, Bilyk N, Robinson BW, Holt PG. Alveolar macrophages from humans and rodents selectively inhibit T-cell proliferation but permit T-cell activation and cytokine secretion. *Immunology.* 1995; 84(1):142-147. (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

