**Technical Data Sheet**

**PE-Cy™5 Mouse Anti-Human CD21**

**Product Information**

**Material Number:** 551064  
**Alternate Name:** CR2; Complement receptor type 2; C3DR; EBV-R; Epstein-Barr virus receptor  
**Size:** 100 Tests  
**Vol. per Test:** 20 µl  
**Clone:** B-ly4  
**Isotype:** Mouse IgG1, κ  
**Reactivity:** QC Testing: Human  
**Workshop:** IV B98  
**Storage Buffer:** Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The B-ly4 monoclonal antibody specifically binds to CD21, a 145 kDa glycosylated type I integral membrane protein. CD21 is a receptor for the C3d complement fragment and for Epstein-Barr virus (EBV). CD21 is expressed on mature B cells, follicular dendritic cells, and some epithelial cells. It is also weakly expressed on the subset of mature T cells and thymocytes. CD21 plays a role in B-cell activation and proliferation. It may also play a role in modulating the function of T cells in the immune response to infections by lymphotropic viruses. Recently, CD21 was found to be part of a large complex containing CD19, CD81, and possibly other molecules.

This clone also cross-reacts with a major subset of, but not all, peripheral blood CD20+ lymphocytes of baboon, and both rhesus and cynomolgus macaque monkeys. A subset of CD3+ cells is also CD21+.

**Flow cytometric analysis of CD21 expression on human peripheral blood lymphocytes.** Whole blood was stained with either PE-Cy™5 Mouse Anti-Human CD21 (Cat. No. 551064; solid line histogram) or PE-Cy™5 Mouse IgG1 κ Isotype Control (Cat. No. 555750; dashed line histogram). Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). Fluorescent histograms were derived from gated events with the side and forward light-scattering characteristics of viable lymphocytes.

**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 with PE-Cy5 (formerly known as BD Cy-Chrome™) under optimum conditions, and unconjugated antibody and free PE-Cy5 were removed.

**Application Notes**

**Application**

| Flow cytometry | Routinely Tested |

**BD Biosciences**

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Suggested Companion Products

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<th>Catalog Number</th>
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<tbody>
<tr>
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<td>PE-Cy™5 Mouse IgG1 κ Isotype Control</td>
<td>100 Tests</td>
<td>MOPC-21</td>
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<td>349202</td>
<td>BD FACSTM Lysing Solution</td>
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Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10⁶ cells in a 100-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. PE-Cy5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the PE-Cy5 tandem fluorochrome, extra care must be taken when using dual-laser cytometers which may directly excite both PE and Cy5™.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. PE-Cy5 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by the 488 nm light of an Argon ion laser and serves as an energy donor, coupled to the cyanine dye Cy5, which acts as an energy acceptor and fluoresces at 670 nm. BD Biosciences Pharmingen has maximized the fluorochrome energy transfer in PE-Cy5, thus maximizing its fluorescence emission intensity, minimizing residual emission from PE, and minimizing lot-to-lot variation.
8. Cy is a trademark of GE Healthcare.
9. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
10. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
11. PE-Cy5 tandem fluorochromes have been reported to bind some classes of human macrophages and granulocytes via Fc receptors, and PE has been reported to bind to mouse B lymphocytes via Fc receptors. Preincubation of mouse leukocytes with Mouse BD Fc Block™ purified anti-mouse CD16/CD32 mAb 2.4G2 can reduce the non-specific binding of PE-Cy5-conjugated reagents to mouse B cells. However, PE-Cy5 conjugated reagents should not be used to stain splenocytes of SJL, NOD, and MRL mice as B lymphocytes and/or other leukocytes have been reported to non-specifically stain regardless of the use of Mouse BD Fc Block™ (the CD72c complex has been implicated for PE-Cy5 binding in these strains). Reagents conjugated to PE, PerCP, PerCP-Cy5.5, APC, and APC-Cy7 tandem fluorochrome can be used on leukocytes from these mouse strains.

References


