PE-CF594 Mouse Anti-Human CD20

Product Information

Material Number: 562295
Alternate Name: MS4A1; B1; Bp35; LEU-16; S7
Size: 100 Tests
Vol. per Test: 5 µl
Clone: 2H7
Immunogen: Human 6.16c1.3 B cell line
Isotype: Mouse (C57BL/6) IgG2b, κ
Reactivity: Qc Testing: Human
Workshop: II B22; III B739, NL382; IV B201
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 2H7 monoclonal antibody specifically binds to CD20, encoded by the MS4A1 (Membrane-spanning 4-domains, subfamily A, member 1) gene. CD20 is a 33-37 kDa, unglycosylated four-transmembrane phosphoprotein. CD20 is expressed on pre-B-cells, resting and activated B cells, and follicular dendritic cells, but not plasma cells. Low level CD20 expression is observed on a small subset of normal circulating T lymphocytes. The CD20 molecule is involved in the regulation of B-cell activation.

This clone also cross-reacts with a subset of peripheral blood lymphocytes, but not monocytes nor granulocytes, of baboon and both rhesus and cynomolgus macaque monkeys. The distribution on lymphocytes is similar to that seen with normal human donor lymphocytes, namely bright staining on B lymphocytes and weak reactivity on a small subset of CD3-positive T lymphocytes.

This antibody is conjugated to BD Horizon PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg, 610/20-nm filter).

Flow cytometric analysis of CD20 expression on human peripheral blood lymphocytes. Human whole blood was stained with the BD Horizon™ PE-CF594 Mouse Anti-Human CD20 antibody (Cat. No. 562295/562322; solid line histogram) or with a BD Horizon™ PE-CF594 Mouse IgG2b, κ Isotype Control (Cat. No. 562305; dashed line histogram). The erythrocytes were lysed with BD PharmLyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer 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 with BD Horizon™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

Application Notes

Application

Flow cytometry Routinely Tested
Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>562305</td>
<td>PE-CF594 Mouse IgG2b, κ Isotype Control</td>
<td>0.1 mg</td>
<td>27-35</td>
</tr>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>555899</td>
<td>Lysing Buffer</td>
<td>100 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>349202</td>
<td>BD FACSTM Lysing Solution</td>
<td>100 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>562550</td>
<td>PE-CF594 Mouse Anti-Human CD20</td>
<td>50 Tests</td>
<td>2H7</td>
</tr>
</tbody>
</table>

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use $1 \times 10^6$ 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. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
6. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CF™594.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
9. CF™ is a trademark of Biotium, Inc.
10. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer’s own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.
11. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.
12. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.

References

Hultin LE, Hausner MA, Hultin PM, Giorgi JV. CD20 (pan-B cell) antigen is expressed at a low level on a subpopulation of human T lymphocytes. Cytometry. 1993; 14(2):193-204. (Biology)
