**Technical Data Sheet**

**BUV805 Mouse Anti-Human CD20**

**Product Information**

- **Material Number:** 564918
- **Alternate Name:** MS4A1; B1; Bp35; LEU-16; S7
- **Size:** 25 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
  - Tested in Development: Rhesus, Cynomolgus, Baboon
- **Workshop:**
  - II B22; III B739, NL382; IV B201
- **Storage Buffer:** Aqueous buffered solution containing ≤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.

The antibody was conjugated to BD Horizon BUV805 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome with an Ex Max near 350 nm and an Em Max near 805 nm. BD Horizon Brilliant BUV805 can be excited by the ultraviolet laser (355 nm) and detected with a 820/60 nm filter and a 770 nm LP.

**Flow cytometric analysis of CD20 expression on human peripheral blood lymphocytes.** Whole blood was stained with either BD Horizon™ BUV805 Mouse IgG2b, κ Isotype Control (Cat. No. 564916; dashed line histogram) or BD Horizon BUV805 Mouse Anti-Human CD20 antibody (Cat. No. 564917/564918; solid line histogram). Erythrocytes were lysed with BD FACS Lysing Solution (Cat. No. 349202). The fluorescence histogram showing CD20 expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer 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 BUV805 under optimum conditions, and unconjugated antibody and free BD Horizon BUV805 were removed.

**Application Notes**

**Application**

<table>
<thead>
<tr>
<th>Flow cytometry</th>
<th>Routinely Tested</th>
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Recommended Assay Procedure:

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome-conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBeads. This will ensure that BD CompBeads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

Note: When using high concentrations of antibody, background binding of this dye to erythroid cell subsets (mature erythrocytes and precursors) has been observed. For researchers studying these cell populations, or in cases where light scatter gating does not adequately exclude these cells from the analysis, this background may be an important factor to consider when selecting reagents for panel(s).

Suggested Companion Products

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<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
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<tbody>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>564916</td>
<td>BUV805 Mouse IgG2b, κ Isotype Control</td>
<td>50 µg</td>
<td>27-35</td>
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<tr>
<td>564917</td>
<td>BUV805 Mouse Anti-Human CD20 (to be replaced with 612905 &amp; 612906)</td>
<td>100 Tests</td>
<td>2H7</td>
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<td>349202</td>
<td>BD FACSTM Lysing Solution</td>
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<td>Lysing Buffer</td>
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<tr>
<td>566349</td>
<td>Brilliant Stain Buffer</td>
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<tr>
<td>566385</td>
<td>Brilliant Stain Buffer Plus</td>
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<tr>
<td>563794</td>
<td>Brilliant Stain Buffer</td>
<td>100 Tests</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 × 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. 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. BD Horizon Brilliant Ultraviolet 805 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
7. Please refer to http://regdocs.bd.com to access safety data sheets (SDS).

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)