**Technical Data Sheet**

**BV421 Mouse Anti-Human CD179a (VpreB)**

**Product Information**
- **Material Number:** 566583
- **Alternate Name:** VPREB; VPREB1; V pre β; IGVPB; pre-B lymphocyte 1; IGI; immunoglobulin iota
- **Size:** 50 µg
- **Concentration:** 0.2 mg/ml
- **Clone:** HSL96
- **Immunogen:** Human VpreB/λ5 Recombinant Protein
- **Isotype:** Mouse (BALB/c) IgG1, κ
- **QC Testing:** Human
- **Workshop:** VII 70514
- **Storage Buffer:** Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The HSL96 monoclonal antibody specifically recognizes CD179a which is also known as VpreB (V pre beta/V pre β). CD179a (VpreB) is a ~18 kDa, Ig V domain-like protein that is encoded by VPREB1 (pre-B lymphocyte 1). This member of the immunoglobulin (Ig) gene superfamily is primarily expressed in the cytoplasm of normal pro-B and early pro-B cells and at low levels on the surface of early pre-B cells. It is not expressed by normal mature circulating B cells or by other leucocyte populations. CD179a (VpreB) associates noncovalently with CD179b (λ5) to form CD179a/CD179b (VpreB/λ5), an Ig light chain-like structure called the surrogate light chain. Surrogate light chains are disulfide-linked to membrane-bound IgM heavy chains in association with signal transducer CD79a/CD79b heterodimers which together form the pre-B cell receptor (preBCR) complex. The preBCR plays a critical role in early B cell proliferation and differentiation. The HSL96 antibody can reportedly be used to stain cytoplasmic and cell surface CD179a (VpreB).

The antibody was conjugated to BD Horizon BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.

![Flow cytometric analysis of surface CD179a (VpreB) expression on human NALM-6 cells. Cells from the human NALM-6 (B cell precursor leukemia) cell line were surface stained with either BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No.562438; dashed line histogram) or BD Horizon BV421 Mouse Anti-Human CD179a (VpreB) antibody (Cat. No. 566583; solid line histogram) at 1.0 µg/ml. The fluorescence histogram showing CD179a (VpreB) expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometric analysis was performed using a BD FACSCanto™ II Flow Cytometer System. Data shown on this Technical Data Sheet are not lot specific.](image)

**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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon BV421 were removed.

**Application Notes**

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<thead>
<tr>
<th>Application</th>
<th>Routinely Tested</th>
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<tr>
<td>Flow cytometry</td>
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566583 Rev. 1
Recommended Assay Procedure:
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).

Suggested Companion Products

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tbody>
<tr>
<td>562438</td>
<td>BV421 Mouse IgG1, k Isotype Control</td>
<td>50 µg</td>
<td>X40</td>
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<tr>
<td>563794</td>
<td>Brilliant Stain Buffer</td>
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<tr>
<td>566349</td>
<td>Brilliant Stain Buffer</td>
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<tr>
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<td>Brilliant Stain Buffer Plus</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
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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. 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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
7. BD Horizon Brilliant Violet 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
8. 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.

References


