Technical Data Sheet

BV421 Mouse Anti-Human Podoplanin

Product Information

Material Number: 566456
Alternate Name: PDPN; T1-alpha (T1A); GP36; GP40; OTS8; T1A2; TH1A; T1A-2; AGGRUS; PA2.26

Size: 50 µg
Concentration: 0.2 mg/ml
Clone: LpMab-17
Immunogen: Human PDPN Transfected Cell Line
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: QC Testing: Human
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The LpMab-17 monoclonal antibody specifically recognizes human podoplanin which is encoded by PDPN. Podoplanin is a 38-44 kDa type I transmembrane glycoprotein. This heavily glycosylated mucin type protein is named for its expression on kidney glomerular epithelial cells known as podocytes. It is also expressed on a wide variety of cell types, including intestinal and thymic epithelial cells, alveolar type I cells, fibroblastic reticular cells, lymphatic endothelial cells, osteoblasts, and TH17 cells. Its expression is upregulated in some tumors. Podoplanin induces platelet aggregation via its three platelet aggregation-stimulating (PLAG) domains; it binds C-type lectin domain family 1 member B (Clec1B, also known as CLEC2); and it is involved in actin cytoskeleton organization and in cellular adhesion and migration. It also plays roles in organogenesis, vascular development, inflammatory diseases, tumorigenesis, and cancer cell motility and metastasis.

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 human podoplanin expression on human teratocarcinoma cell line. NCCIT cells (ATCC CRL-2073) were stained with either BD Horizon™ BV421 Mouse IgG1, κ Isotype Control (Cat. No. 562438; 0.5 µg, dashed line histogram) or BD Horizon™ BV421 Mouse Anti-Human Podoplanin (Cat. No. 566456; 0.5 µg, solid line histogram). The fluorescence histogram showing podoplanin expression (or Ig Isotype control staining), were 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.

Immunohistofluorescent staining of Podoplanin in human placenta. The acetone-fixed sections of frozen tissue were stained with BD Horizon™ BV421 Mouse Anti-Human Podoplanin (Cat. No. 566456, pseudocolored red) and DRAQ5™ (Cat. No. 564902 or 564903, pseudocolored green) at 0.5 µg. Photography was performed on a Molecular Devices standard epifluorescence microscope. Original magnification, 20×. Data shown on this Technical Data Sheet are not lot specific.
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

<table>
<thead>
<tr>
<th>Application</th>
<th>Method</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
<td>Routinely Tested</td>
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<tr>
<td>Immunohistochemistry-frozen</td>
<td>Tested During Development</td>
</tr>
<tr>
<td>Immunofluorescence</td>
<td>Tested During Development</td>
</tr>
<tr>
<td>Immunohistochemistry-paraffin</td>
<td>Reported</td>
</tr>
</tbody>
</table>

Recommended Assay Procedure:
For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD Optibuild Brilliant reagents) 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>
</tr>
</thead>
<tbody>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 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>562438</td>
<td>BV421 Mouse IgG1, k Isotype Control</td>
<td>50 µg</td>
<td>X40</td>
</tr>
<tr>
<td>564902</td>
<td>DRAQ5™</td>
<td>200 µL</td>
<td>(none)</td>
</tr>
<tr>
<td>564903</td>
<td>DRAQ5™</td>
<td>50 µL</td>
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<tr>
<td>563794</td>
<td>Brilliant Stain Buffer</td>
<td>100 Tests</td>
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<tr>
<td>566349</td>
<td>Brilliant Stain Buffer</td>
<td>1000 Tests</td>
<td>(none)</td>
</tr>
<tr>
<td>566385</td>
<td>Brilliant Stain Buffer Plus</td>
<td>1000 Tests</td>
<td>(none)</td>
</tr>
</tbody>
</table>

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.
9. DRAQ5™ is a registered trademark of BioStatus Ltd.

References