BV421 Mouse Anti-Human CD39

Product Information

Material Number: 566267
Alternate Name: ENTPD1; NTPDase-1; Ecto-ATPase 1; Ecto-ATPDase 1
Size: 25 Tests
Vol. per Test: 5 µl
Clone: TU66 (also known as Tü 66, Tü66)
Isotype: Mouse IgG2b, κ
Reactivity: QC Testing: Human
Workshop: IV A54
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The TU66 monoclonal antibody reacts with human CD39, also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENTPD1), an ectoenzyme that degrades ATP to AMP. It is a member of the ectonucleoside triphosphate dihydrolases (E-NTPDases) family involved in the regulation of extracellular nucleotide catabolism by controlling the extracellular nucleoside triphosphate pool (NTP). CD39 is expressed on a subset of T cells, B cells and dendritic cells, with weak staining of monocytes and granulocytes. Recently, CD39 has been found to be expressed primarily by immune-suppressive Foxp3(+) regulatory T (Treg) cells in both human and mice. In humans, CD39 is restricted to a subset of Foxp3+ regulatory effector/memory-like T cells. In mice, the enzyme is present on most, if not all, CD4+CD25+ cells. CD39 expression is driven by Foxp3 and it is thought that CD39 allows Treg cells to enter inflamed areas where high levels of ATP are present.

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.

Multicolor flow cytometric analysis of CD39 expression on peripheral blood CD4+CD25+CD127low T cells. Whole human peripheral blood was stained with FITC Mouse Anti-Human CD4 (Cat. No. 555346/561005/561842), PE-Cy™7 Mouse Anti-Human CD25 (Cat. No. 557741/560920/561405), PE-Cy™7 Mouse Anti-Human CD127 (Cat No. 558598/560960), and BD Horizon™ BV421 Mouse Anti-Human CD39 antibody (Cat. No. 566267/566267, solid line histogram) or BD Horizon BV421 Mouse IgG2b, κ Isotype Control (Cat. No. 562748; dashed line histogram) (Left Panel). Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from CD4+CD25+CD127low gated events (ie, cells with a Regulatory T cell immunophenotype; Right Panel) with the forward and side light-scatter characteristics of viable 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™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

Application Notes

Application

**Flow cytometry**

**Routinely Tested**

Suggested Companion Products

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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<td>BV421 Mouse Anti-Human CD39</td>
<td>100 Tests</td>
<td>TU66</td>
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<td>BV421 Mouse IgG2b, k Isotype Control</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. 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. Cy is a trademark of GE Healthcare.
9. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
10. 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


