PE-Cy™7 Mouse Anti-Human CD34

Product Information

Material Number: 560710
Alternate Name: gp105-120; My10; Hematopoietic progenitor cell antigen CD34
Size: 50 Tests
Vol. per Test: 5 µl
Clone: 581
Isotype: Mouse IgG1, κ
Reactivity: QC Testing: Human
Workshop: V MA27, VI E004
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 581 monoclonal antibody specifically binds to CD34, a sialomucin-like type I transmembrane glycoprotein. This single-chain, 105-120 kDa, heavily O-glycosylated protein is expressed on hematopoietic progenitor cells, vascular endothelium, bone marrow stromal cells and embryonic fibroblasts. The cytoplasmic region of the CD34 antigen is a target for phosphorylation by activated protein kinase C suggesting CD34 may play a role in signal transduction. CD34 may also play a role as an adhesion molecule since it binds to CD62E and CD62L. Clone 581 binds to the class III CD34 epitope. It is resistant to neuraminidase, chymopapain and glycoprotease. The 581 antibody blocks reactivity of another anti-CD34 monoclonal antibody, 8G12.

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.

Application Notes

Application

Flow cytometry Routinely Tested

Multicolor flow cytometric analysis of CD34 expressed by human peripheral blood mononuclear cells. Human peripheral blood mononuclear cells were incubated in the presence of Human BD Fc Block™ (Cat. No. 564219/564220) and were stained with PE Mouse Anti-Human CD14 antibody (Cat. No. 555398/561707), FITC Mouse Anti-Human CD45 (Cat. No. 555482/560976/561865) and either a PE-Cy™7 Mouse IgG1 κ Isotype Control (Cat No. 557872, Left Panel) or the PE-Cy™7-Mouse Anti-Human CD34 antibody (Cat. No. 560710, Right Panel). Flow cytometric dot plots showing side-scattered light signals versus CD34 fluorescence (or Ig isotype control staining) were derived from gated events based on the light scattering characteristics for viable CD14-negative cells. 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 PE-Cy7 under optimum conditions, and unconjugated antibody and free PE-Cy7 were removed.

Application Notes

Application

Flow cytometry Routinely Tested
Recommended Assay Procedure:
BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to 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 cell and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

Suggested Companion Products

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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tr>
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<td>PE-Cy™7 Mouse IgG1 κ Isotype Control</td>
<td>100 Tests</td>
<td>MOPC-21</td>
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<td>564219</td>
<td>Human BD Fc Block™</td>
<td>50 µg</td>
<td>Fc1.3216</td>
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<td>PE Mouse Anti-Human CD14</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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).
6. 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.
7. PE-Cy7 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by 488-nm light and serves as an energy donor, coupled to the cyanine dye Cy7, which acts as an energy acceptor and fluoresces maximally at 780 nm. PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from PE may be observed. Therefore, we recommend that individual compensation controls be performed for every PE-Cy7 conjugate. PE-Cy7 is optimized for use with a single argon ion laser emitting 488-nm light, and there is no significant overlap between PE-Cy7 and FITC emission spectra. When using dual-laser cytometers, which may directly excite both PE and Cy7, we recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
10. Cy is a trademark of GE Healthcare.

References
Kishimoto T, Tadamitsu Kishimoto .. et al., ed. Leucocyte typing VI : white cell differentiation antigens : proceedings of the sixth international workshop and conference held in Kobe, Japan, 10-14 November 1996. New York: Garland Pub.; 1997(Biology)