PE-Cy™7 Mouse Anti-Human CD184

**Product Information**

**Material Number:** 560669  
**Alternate Name:** CXCR4; Fusin; SDF-1 receptor; LAP3; LCR1; LESTR; NPYY3R; NPY3R; WHIM; HM8  
**Size:** 50 tests  
**Vol. per Test:** 5 µl  
**Clone:** 12G5  
**Isotype:** Mouse (BALB/c) IgG2a, κ  
**Reactivity:** QC Testing: Human  
**Workshop:** VII 70204, 70305  
**Storage Buffer:** Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The 12G5 monoclonal antibody specifically binds to CD184, also known as CXCR4 and Fusin. CD184/CXCR4 is a seven-transmembrane domain, G-protein-linked, glycoprotein chemokine receptor. CD184 serves as a receptor for the C-X-C chemokine, SDF-1. It is expressed on a wide variety of hematopoietic cells, vascular endothelial cells and cells of the nervous system. CD184 plays a variety of roles in hematopoiesis, vascularization and neural development. CD184 also functions as a coreceptor for infection with T-cell tropic strains of HIV-1 and as a receptor for CD4-independent infection by some HIV isolates. The 12G5 antibody has been reported to block CD4-independent infection by HIV-2 and CD4-dependent infection by some T-cell tropic isolates of HIV-1.

**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:**  
**Flow cytometry:** Chemokine receptors are known to internalize during manipulation resulting in low frequency expression. Investigators are advised to perform immunophenotyping studies of chemokine receptors on freshly collected samples (<24 Hrs). Incubation with the antibody should be done at 4°C in the dark. Cellular manipulation, such as Ficoll separation, freezing, or exposure to cold temperatures prior to staining should be minimized and have been shown to cause a decrease in staining intensity and/or inconsistent results.

Investigators should note that alternative staining procedures may be necessary. A multiple-step staining procedure is strongly recommended, in some instances, to amplify immunofluorescent signals for the flow cytometric analysis of human CXCR4 expression. Investigators may find the Purified Mouse Anti-Human CD184 antibody (MN 555972) to be useful in conjunction with appropriate secondary and tertiary reagents for detecting low frequency expression, such as with Biotin Goat Anti-Mouse Ig (MN 553999) and PE Streptavidin (MN 554061) or PE-Cy™7 Streptavidin (MN 557598).
**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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</thead>
<tbody>
<tr>
<td>557907</td>
<td>PE-Cy™7 Mouse IgG2a, κ Isotype Control</td>
<td>100 tests</td>
<td>G155-178</td>
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<tr>
<td>555899</td>
<td>Lysing Buffer</td>
<td>100 ml</td>
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<tr>
<td>555972</td>
<td>Purified Mouse Anti-Human CD184</td>
<td>0.1 mg</td>
<td>12G5</td>
</tr>
<tr>
<td>553999</td>
<td>Biotin Goat Anti-Mouse Ig (Multiple Adsorption)</td>
<td>0.5 mg</td>
<td>Polyclonal</td>
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<tr>
<td>554061</td>
<td>PE Streptavidin</td>
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<td>(none)</td>
</tr>
<tr>
<td>557598</td>
<td>PE-Cy™7 Streptavidin</td>
<td>0.1 mg</td>
<td>(none)</td>
</tr>
</tbody>
</table>

**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. 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 very 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.
7. 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.
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10. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

**References**


Simmons G, Wilkinson D, Reeves JD, et al. Primary, syncytium-inducing human immunodeficiency virus type 1 isolates are dual-tropic and most can use either Lestr or CCR5 as coreceptors for virus entry. J Virol. 1996; 70(12):8355-8360. (Biology)

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