PE-Cy™7 Mouse Anti-Human CD83

**Product Information**

Material Number: 561132  
Alternate Name: BL11; HB15; B-cell activation protein  
Size: 50 Tests  
Vol. per Test: 5 µl  
Clone: HB15e  
Immunogen: Human CD83 transfected COS cells  
Isotype: Mouse IgG1, κ  
Reactivity: QC Testing: Human  
Workshop: VI  
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The HB15e monoclonal antibody specifically binds to a 45 kDa type 1 transmembrane glycoprotein member of the Ig superfamily. CD83 is composed of a single V-type Ig extracellular domain with a C-terminal cytoplasmic tail. Cell surface CD83 is expressed mainly by follicular dendritic cells, circulating dendritic cells, interdigitating dendritic cells in lymphoid tissues, in vitro-generated dendritic cells and thymic dendritic cells. However, its expression is not restricted to dendritic cells. CD83 is also expressed on some germinal center B cells and some lymphoblastoid cell lines. Although its function is not known, it may play a role in cell-cell interaction during antigen presentation.

**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

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>554605</td>
<td>Recombinant Human IL-4</td>
<td>5 µg</td>
<td>(none)</td>
</tr>
<tr>
<td>554618</td>
<td>Recombinant Human TNF</td>
<td>10 µg</td>
<td>(none)</td>
</tr>
<tr>
<td>550068</td>
<td>Recombinant Human GM-CSF</td>
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<tr>
<td>557872</td>
<td>PE-Cy™7 Mouse IgG1 κ Isotype Control</td>
<td>100 Tests</td>
<td>MOPC-21</td>
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<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
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</tbody>
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**Flow Cytometric Analysis of CD83 Expression**

Flow cytometric analysis of CD83 expression on cultured human dendritic cells. Human peripheral blood monocytes were treated with 20 ng/mL of Recombinant Human IL-4 (Cat. No. 554605), 20 ng/mL Recombinant Human TNF (Cat. No. 554618) and 20 ng/mL Recombinant Human GM-CSF (Cat. No. 550068) for 7 days at 37°C. The cells were then stained with either a PE-Cy™7 Mouse IgG1, κ Isotype Control (Cat. No. 557872; dashed line histogram) or with the PE-Cy™7 Mouse Anti-Human CD83 antibody (Cat. No. 561132; solid line histogram). Flow cytometric histograms were derived from gated events based on the forward and side light-scatter characteristics of dendritic cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometry System.
Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use $1 \times 10^6$ 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. 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.

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

7. 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).

8. 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.

9. Cy is a trademark of GE Healthcare.

10. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.


References

Hart DN. Dendritic cells: unique leukocyte populations which control the primary immune response. Blood. 1997; 90(9):3245-3287. (Biology)

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)


Weissman D, Li Y, Anaworanthich J, et al. Three populations of cells with dendritic morphology exist in peripheral blood, only one of which is infectable with human immunodeficiency virus type 1. Proc Natl Acad Sci U S A. 1995; 92(1):826-830. (Biology)