Technical Data Sheet

BV650 Mouse Anti-Human CD11a

Product Information

Material Number: 563934
Alternate Name: LFA-1α; Lymphocyte (Leukocyte) function-associated antigen 1 α chain; ITGAL
Size: 100 Tests
Vol. per Test: 5 µl
Clone: HI111
Isotype: Mouse IgG1, κ
Reactivity: QC Testing: Human
Workshop: IV N231
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The HI111 monoclonal antibody specifically binds to CD11a, the 180 kDa integrin α chain. This type I transmembrane glycoprotein associates with CD18 (integrin β2) to form the heterodimeric glycoprotein CD11a/CD18. This heterodimer is also known as the lymphocyte (leukocytes) function associated antigen-1 (LFA-1) that is expressed on all leukocytes. LFA-1 is an adhesion molecule involved in lymphocyte and granulocyte functions. LFA-1 mediates adhesion of lymphoid cells to the vascular endothelium in association with its ligand, and the intracellular adhesion molecule-1 (ICAM-1), CD54. Other ligands are ICAM-2 (CD102) and ICAM-3 (CD50).

Clone HI111 also cross reacts with all leukocytes of baboon, and both rhesus and cynomolgus macaque monkeys. The distribution of leukocytes is similar to that observed with peripheral blood leukocytes from normal human donors, with the lymphocyte population also showing a bimodal staining pattern.

The antibody was conjugated to BD Horizon BV650 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Flow cytometric analysis of CD11a expression on human peripheral blood lymphocytes. Human whole blood was stained with either BD Horizon™ BV650 Mouse IgG1, κ Isotype Control (Cat. No. 563231; dashed line histogram) or BD Horizon™ BV650 Mouse Anti-Human CD11a antibody (Cat. No. 563934; solid line histogram). The erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.

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563934 Rev. 2
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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™
BV650 were removed.

Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Routinely Tested</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
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</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 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>
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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
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<td>Stain Buffer (FBS)</td>
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<td>554657</td>
<td>Stain Buffer (BSA)</td>
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<td>563231</td>
<td>BV650 Mouse IgG1, k Isotype Control</td>
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<tr>
<td>349202</td>
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<td>563794</td>
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<tr>
<td>566385</td>
<td>Brilliant Stain Buffer Plus</td>
<td>1000 Tests</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 × 10⁶ 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. Species testing during development may have been performed with a different format of the same clone. Selected applications have been
tested for cross-reactivity.
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at
   www.bdbiosciences.com/colors.
8. BD Horizon Brilliant Violet 650 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,354,239.

References
University Press; 2002:519-523. (Clone-specific)
Dustin ML, Springer TA. Lymphocyte function-associated antigen-1 (LFA-1) interaction with intercellular adhesion molecule-1 (ICAM-1) is one of at least three
Flow cytometry)
Mann G, Shimaoka M, Lu C, Jing H, Carman CV, Springer TA. Activation-induced conformational changes in the I domain region of lymphocyte function-associated
Nat Med. 1999; 5(2):231-235. (Biography)
Transplantation. 1999; 67(2):253-258. (Biography)
Yawalkar N, Hunger RE, Pichler WJ, Braathen LR, Brand CU. Human afferent lymph from normal skin contains an increased number of mainly memory / effector