productInformation:
Material Number: 555956
Alternate Name: 4-1BB, ILA, TNFRSF9
Size: 100 Tests
Vol. per Test: 20 µl
Clone: 4B4-1
Immunogen: Recombinant Human 4-1BB Fusion Protein
Isotype: Mouse (BALB/c) IgG1, κ
Reactivity: QC Testing: Human
Workshop: VI C-7
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

description:
The 4B4-1 monoclonal antibody specifically binds to CD137 which is also known as 4-1BB, and ILA (induced by lymphocyte activation). CD137 is a type I transmembrane glycoprotein that belongs to the TNF/NGF receptor family. It is encoded by TNFRSF9 (tumor necrosis factor receptor superfamily, member 9). CD137 is expressed on activated T cells, B cells, monocytes, and follicular dendritic cells. CD137 plays roles in the costimulation, differentiation and survival of T cells and B cells.

preparationAndStorage:
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 R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

applicationNotes:
Application
Flow cytometry Routinely Tested

suggestedCompanionProducts:
<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>555749</td>
<td>PE Mouse IgG1, κ Isotype Control</td>
<td>100 Tests</td>
<td>MOPC-21</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 mL</td>
<td>(none)</td>
</tr>
<tr>
<td>561701</td>
<td>PE Mouse Anti-Human CD137</td>
<td>25 Tests</td>
<td>4B4-1</td>
</tr>
</tbody>
</table>
Product Notices
1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use $1 \times 10^6$ 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. 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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

References
Hurtado JC, Kim YJ, Kwon BS. AAI Meeting, Abstract #841. San Francisco; 1997(Biology)
Kim YJ, Kim SH, Kwon BS. AAI Meeting, Abstract #838. San Francisco; 1997(Biology)