Product Information

Material Number: 563024
Alternate Name: CD3; CD3 epsilon; Cd3e; CD3ε; T3ε
Size: 50 µg
Concentration: 0.2 mg/ml
Clone: 145-2C11
Immunogen: H-2Kb specific cytotoxic T lymphocyte clone BM10-37
Isotype: Armenian Hamster IgG1, κ
Reactivity: Mouse
Storage Buffer: Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 145-2C11 monoclonal antibody specifically binds to the 25-kDa ε chain of the T-cell receptor-associated CD3 complex that is expressed on thymocytes, mature T lymphocytes, and NK-T cells. The cytoplasmic domain of CD3ε participates in the signal transduction events that activate several cellular biochemical pathways as a result of antigen recognition. Soluble 145-2C11 antibody can activate either unprimed (naïve) or primed (memory/preactivated) T cells in vivo or in vitro, in the presence of Fc receptor-bearing accessory cells. In contrast, plate-bound 145-2C11 can activate T cells in the absence of accessory cells. Soluble 145-2C11 antibody has been reported to induce re-directed lysis of Fc receptor-bearing target cells by CTL clones and can also block lysis of specific target cells by antigen-specific CTL’s. Under some conditions, T-cell activation by 145-2C11 antibody has been reported to result in apoptotic cell death. The 145-2C11 antibody does not cross-react with rat leukocytes. Preincubation of thymus cell suspensions at 37°C for 2-4 hours prior to staining reportedly enhances the ability of anti-CD3ε and anti-αβ TCR mAbs to detect the T-cell receptor on immature thymocytes.

The antibody was conjugated to BD Horizon™ BV510 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon™ BV510 can be excited by the violet laser and detected in the BD Horizon™ V500 (525/50-nm) filter set. BD Horizon™ BV510 conjugates are useful for the detection of dim markers off the violet laser.

Two-color flow cytometric analysis of CD3ε expressed on mouse splenocytes. BALB/c splenic leucocytes were stained with APC Rat Anti-Mouse CD4 (Cat. No. 553051/561091) and APC Rat Anti-Mouse CD8a (Cat. No. 553035/561093) antibodies and either BD Horizon™ BV510 Armenian Hamster IgG1, κ Isotype Control (Cat. No. 563197; Left Panel) or BD Horizon™ BV510 Hamster Anti-Mouse CD3ε antibody (Cat. No. 563024; Right Panel). The two-color flow cytometric dot plots show CD3 (or Ig Isotype Control staining) versus CD4 and CD8 derived from events with the forward and side light-scatter characteristics of viable splenic leucocytes. Flow cytometric analysis was performed using a BD LSR™ II Flow Cytometry 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 BD Horizon™ BV510 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV510 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>554656</td>
<td>Stain Buffer (FBS)</td>
<td>500 ml</td>
<td>(none)</td>
</tr>
<tr>
<td>563197</td>
<td>BV510 Hamster IgG1, x Isotype Control</td>
<td>50 µg</td>
<td>A19-3</td>
</tr>
<tr>
<td>553051</td>
<td>APC Rat Anti-Mouse CD4</td>
<td>0.1 mg</td>
<td>RM4-5</td>
</tr>
<tr>
<td>561091</td>
<td>APC Rat Anti-Mouse CD4</td>
<td>25 µg</td>
<td>RM4-5</td>
</tr>
<tr>
<td>555999</td>
<td>Lysing Buffer</td>
<td>100 ml</td>
<td>(none)</td>
</tr>
<tr>
<td>553035</td>
<td>APC Rat Anti-Mouse CD8a</td>
<td>0.1 mg</td>
<td>53-6-7</td>
</tr>
<tr>
<td>561093</td>
<td>APC Rat Anti-Mouse CD8a</td>
<td>25 µg</td>
<td>53-6-7</td>
</tr>
</tbody>
</table>

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to wwwbdbiosciences.com/pharmingen/protocols for technical protocols.
5. 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.
6. For fluorochromes spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at wwwbdbiosciences.com/colors.
7. Brilliant Violet™ 510 is a trademark of Sirigen.
8. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://wwwbdbiosciences.com/documents/hamster_chart_11x17.pdf.

References


