Technical Data Sheet

PE Rat Anti-Mouse CD40

Product Information

Material Number: 553791
Size: 0.2 mg
Concentration: 0.2 mg/ml
Clone: 3/23
Immunogen: Mouse CD40 Recombinant Protein
Isotype: Rat (LOU) IgG2a, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 3/23 clone reacts with CD40, a 40-50 kDa glycoprotein expressed on B lymphocytes and other antigen-presenting cells. CD40 has been reported to be transiently expressed on activated CD4+ and CD8+ T cells and in some mouse strains, the 3/23 mAb has been reported to react with 5-10% of T lymphocytes in adult mouse, but not neonatal, spleen. CD40 plays a key role in B-cell growth and differentiation where interactions of CD40 with its ligand, CD154, are involved in the initiation, effector, and memory stages of cell-mediated immune responses. In addition, CD40 has been reported to be involved with the triggering of NK cells and NK-T cells. Ligation of CD40 with the 3/23 antibody has been reported to induce splenic B cells to express the costimulatory molecule CD86 (B7-2). In addition, although the 3/23 antibody by itself is a weak B-cell mitogen, it has been reported to synergize markedly with mitogenic anti-IgM, anti-IgD mAb or IL-4 to promote B-cell proliferation.

Preparation and Storage

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. Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Two-color analysis of the expression of CD40 on mouse spleen cells. BALB/c splenocytes were simultaneously stained with FITC-conjugated anti-mouse CD4 mAb RM4-5 (Cat. No. 553046) and anti-mouse CD8a mAb 53-6.7 (Cat. No. 553030) and PE-conjugated mAb 3/23 (right panel). Please note that staining of a T-cell subset by mAb 3/23 has not been consistently observed. Flow cytometry was performed on a BD FACScan™ flow cytometry system.
Application Notes

Application

Flow cytometry Routinely Tested

**Recommended Assay Procedure:**

This product has been reported to be compatible with intracellular staining protocols using the BD Cytofix/Cytoperm™ Kit (Cat. No. 554714).

**Suggested Companion Products**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
</tr>
</thead>
<tbody>
<tr>
<td>553046</td>
<td>FITC Rat Anti-Mouse CD4</td>
<td>0.1 mg</td>
<td>RM4-5</td>
</tr>
<tr>
<td>553030</td>
<td>FITC Rat Anti-Mouse CD8a</td>
<td>0.1 mg</td>
<td>53-67</td>
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<tr>
<td>554714</td>
<td>BD Cytofix/Cytoperm™ Fixation/Permeabilization Kit</td>
<td>250 tests</td>
<td>(none)</td>
</tr>
<tr>
<td>553930</td>
<td>PE Rat IgG2a, κ Isotype Control</td>
<td>0.1 mg</td>
<td>R35-95</td>
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</table>

**Product Notices**

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
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.

**References**

Bourgeois C, Rocha B, Tanchot C. A role for CD40 expression on CD8+ T cells in the generation of CD8+ T cell memory. Science. 2002; 297(5589):2060-2063. (Biology)


Parry SL, Hasbold J, Holman M, Klaus GG. Hypercross-linking surface IgM or IgD receptors on mature B cells induces apoptosis that is reversed by costimulation with IL-4 and anti-CD40. *J Immunol.* 1994; 152(6):2821-2829. (Biological)

