Alexa Fluor® 647 Rat Anti-Mouse CD23

Product Information

Material Number: 562826
Alternate Name: FcεRII; Fc-epsilon-RII; FcεR2a; Ly-42; Low-affinity IgE receptor; FcεR2
Size: 0.1 mg
Concentration: 0.2 mg/ml
Clone: B3B4
Immunogen: FcεR isolated from the mouse B hybridoma line O1.2B2
Isotype: Rat (LOU) IgG2a, κ
Reactivity: QC Testing: Mouse
Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The B3B4 antibody reacts with CD23, the low affinity IgE Fc receptor (FcεRII) expressed on mature resting conventional B lymphocytes, but not on B-1 cells (CD5+ B cells) or T lymphocytes. It does not react with high-affinity IgE receptors, as demonstrated on mouse mast cell lines. The regulation of CD23 surface expression on activated B cells appears to be complex, depending upon the mode of activation and the presence of cytokines. IgE synthesis is negatively regulated by CD23, and CD23 expression is upregulated on splenocytes in the presence of IgE. CD23 is also upregulated on follicular dendritic cells in the lymph nodes of immunized mice, and a subset of splenic dendritic cells expresses CD23. The B3B4 antibody abrogates antigen-specific IgE-dependent modulation of immune responses in normal mice. This monoclonal antibody also blocks IgE binding and eosinophil infiltration in the lung of immunized mice. Different in vivo results have been obtained when using the intact B3B4 antibody or the F(ab’)2 fragments. B3B4 mAb does not cross-react with rat or human IgE Fc Receptor.

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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Application Notes

<table>
<thead>
<tr>
<th>Application</th>
<th>Flow cytometry</th>
<th>Routinely Tested</th>
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Two-color flow cytometric analysis of CD23 expression on mouse splenocytes. BALB/c mouse splenic leucocytes were stained with PE anti-Mouse IgM[a] antibody (Cat. No. 553517) and either Alexa Fluor® 647 Rat IgG2a, κ Isotype Control (Cat. No. 557690; Left Panel) or Alexa Fluor® 647 Rat Anti-Mouse CD23 antibody (Cat. No. 562826; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of CD23 (or Ig Isotype control staining) versus IgM for gated events with the forward and side light-scatter characteristics of viable splenic leucocytes. Flow cytometric analysis was performed using a BD™ LSR II Flow Cytometer System.
### 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>
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<tr>
<td>557690</td>
<td>Alexa Fluor® 647 Rat IgG2a, κ Isotype Control</td>
<td>0.1 mg</td>
<td>R35-95</td>
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<tr>
<td>553517</td>
<td>PE Anti-Mouse IgM[a]</td>
<td>0.2 mg</td>
<td>DS-1</td>
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<tr>
<td>555999</td>
<td>Lysing Buffer</td>
<td>100 ml</td>
<td>(none)</td>
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<tr>
<td>553141</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>2.4G2</td>
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<td>553142</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
<td>0.5 mg</td>
<td>2.4G2</td>
</tr>
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### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
4. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.

### References


Kisselgof AB, Oettgen HC. The expression of murine B cell CD23, in vivo, is regulated by its ligand, IgE. *Int Immunol.* 1998; 10(9):1377-1384. (Clone-specific: Flow cytometry)


