BV711 Rat Anti-Mouse CD23

Product Information
Material Number: 563987
Alternate Name: FCεRII; Fc-εRII; Fcε2a; Ly-42; Low-affinity IgE receptor; Fcε2
Size: 50 µg
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 BSA and ≤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.

The antibody was conjugated to BD Horizon™ BV711 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 711-nm. BD Horizon™ BV711 can be excited by the violet laser and detected in a filter used to detect Cy5.5 / Alexa Fluor® 700-like dyes (e.g., 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Two-color flow cytometric analysis of CD23 expression on mouse splenocytes. Mouse splenic leucocytes were preincubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained with FITC Anti-Mouse IgM[α] antibody (Cat. No. 553516) and either BD Horizon™ BV711 Rat IgG2a, κ Isotype Control (Cat. No. 563047; Left Panel) or BD Horizon™ BV711 Rat Anti-Mouse CD23 antibody (Cat. No. 563987; 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.
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™ BV711 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV711 were removed.

Application Notes

Application

Flow cytometry  Routinely Tested

Suggested Companion Products

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<th>Catalog Number</th>
<th>Name</th>
<th>Size</th>
<th>Clone</th>
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<tr>
<td>554656</td>
<td>Stain Buffer (FBS)</td>
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<td>(none)</td>
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<tr>
<td>554657</td>
<td>Stain Buffer (BSA)</td>
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<td>563047</td>
<td>BV711 Rat IgG2a, κ Isotype Control</td>
<td>50 µg</td>
<td>R35-95</td>
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<td>553516</td>
<td>FITC Mouse Anti-Mouse IgM[a]</td>
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<td>553141</td>
<td>Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)</td>
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<td>Lysing Buffer</td>
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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.
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. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. Cy is a trademark of Amersham Biosciences Limited.
7. Brilliant Violet™ 711 is a trademark of Sirigen.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at wwwbdbiosciences.com/colors.

References


Waldschmidt T, Snapp K, Foy T, Tygrett L, Carpenter C. B-cell subsets defined by the Fc epsilon RI. Ann N Y Acad Sci. 1992; 65184-98. (Biology)