Technical Data Sheet
BV786 Rat Anti-Mouse CD23

Product Information

Material Number: 563988
Alternate Name: FcεRII; Fc-epsilon-RII; Fcer2a; Ly-42; Low-affinity IgE receptor; Fcer2
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 monoclonal antibody specifically binds to 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 BV786 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 786-nm. BD Horizon BV786 can be excited by the violet laser and detected in a filter used to detect Cy™7-like dyes (eg, 780/60-nm filter).

Two-color flow cytometric analysis of CD23 expression on mouse splenocytes. Mouse splenic leukocytes 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. 553335; Left Panel) or BD Horizon™ BV786 Rat Anti-Mouse CD23 antibody (Cat. No. 563988; 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 leukocytes. 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™ BV786 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV786 were removed.
Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385). Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used.

References