Technical Data Sheet

Biotin Mouse Anti-Mouse Vβ 8 T-Cell Receptor

Product Information

- Material Number: 553860
- Alternate Name: TCR V beta 8; TCR V beta 8.1/8.2/8.3
- Size: 0.25 mg
- Concentration: 0.5 mg/ml
- Clone: F23.1
- Immunogen: BALB.C Mouse Lymph-Node and Spleen T Cells
- Isotype: Mouse (C57L) IgG2a, κ
- Reactivity: Mouse
- Storage Buffer: Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The F23.1 antibody specifically reacts with the Vβ 8.1, Vβ 8.2, and Vβ 8.3 T-cell receptors (TCR) of mice having the b haplotype (e.g., A, AKR, BALB/c, CBA/Ca, CBA/J, C3H/He, C57BL, C57, DBA/1, DBA/2) of the Tcrb gene complex. The Tcrb-Vβ8 subfamily gene loci are deleted in mice having the a (e.g., C57BR, C57L, SJL, SWR) or c (e.g., RI) haplotype. Vβ 8.1 TCR-bearing T lymphocytes are clonally eliminated in mice expressing superantigen coded by Mtv-7 (Mls-1a, Mlsa) provirus (e.g., AKR, CBA/J, C57, DBA/2), and activation or elimination of Vβ 8.1 TCR-expressing T cells by this determinant is partially dependent upon presentation by I-E. Mtv-43 and/or exogenous MMTV-SW superantigens also cause incomplete elimination of Vβ 8.1 TCR-bearing T cells. In addition to expression on conventional T lymphocytes, Vβ 8.2 is the predominant β chain of the TCR on NK-T cells. Staphylococcal enterotoxin B, in association with antigen-presenting cells expressing I-A and/or I-E, stimulates lymphocytes bearing Vβ 8 TCR and selectively eliminates those T cells in vivo. Soluble and plate-bound F23.1 antibody activates Vβ 8 TCR-bearing T cells, soluble antibody blocks cytolysis mediated by Vβ 8 TCR-bearing cytotoxic T lymphocytes, and in vivo treatment of neonatal mice can arrest intrathymic maturation of Vβ 8 TCR-bearing T cells.

Preparation and Storage

Store undiluted at 4°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

Application Notes

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<tr>
<th>Application</th>
<th>Routine Tested</th>
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<tbody>
<tr>
<td>Flow cytometry</td>
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<tr>
<td>Immunohistochemistry</td>
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<td>Electron microscopy</td>
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Two-color analysis of the expression of Vβ 8 TCR on peripheral lymphocytes. C57BL6 lymph node cells were incubated simultaneously with Biotin Mouse Anti-Mouse Vβ 8 T-Cell Receptor (Cat. No. 553860), PE Rat Anti-Mouse CD4 (Cat. No. 553048/553049), and PE Rat Anti-Mouse CD8a (Cat. No. 553032/553033) monoclonal antibodies, followed by Avidin FITC (Cat. No. 554057). The fluorescence contour plot was derived from gated events based on the forward and side light-scattering of viable lymphocytes. Flow cytometry was performed on a FACScan™.
Suggested Companion Products

<table>
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<tr>
<th>Catalog Number</th>
<th>Name</th>
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<th>Clone</th>
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<tr>
<td>553048</td>
<td>PE Rat Anti-Mouse CD4</td>
<td>0.1 mg</td>
<td>RM4-5</td>
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<tr>
<td>553032</td>
<td>PE Rat Anti-Mouse CD8a</td>
<td>0.1 mg</td>
<td>53-6.7</td>
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<tr>
<td>554057</td>
<td>Avidin FITC</td>
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<td>554656</td>
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<td>Stain Buffer (BSA)</td>
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<td>PE Rat Anti-Mouse CD4</td>
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<td>553033</td>
<td>PE Rat Anti-Mouse CD8a</td>
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<td>53-6.7</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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at wwwbdbiosciencescomcolors.

References
Hodes RJ, Abe R. Mouse endogenous superantigens: Ms and Ms-like determinants encoded by mouse retroviruses. Curr Protoc Immunol. 2001; Appendix 1:Appendix 1F. (Biology)
Hugo P, Kappler JW, Godfrey DJ, Marrack PC. Thymic epithelial cell lines that mediate positive selection can also induce thymocyte clonal deletion. J Immunol. 1994; 52(3):1022-1031. (Biology)