

Technical Data Sheet

Biotin Hamster Anti-Mouse TCR β Chain

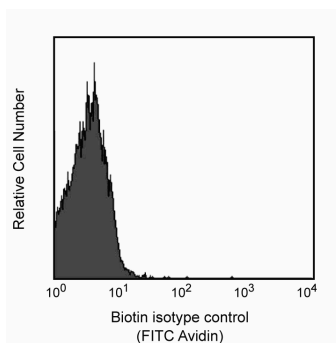
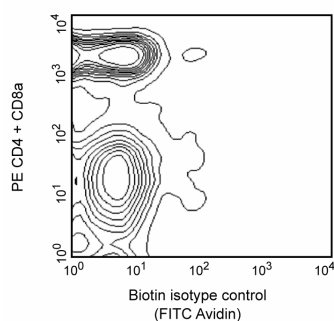
Product Information

Material Number:	553169
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	H57-597
Immunogen:	TCR affinity-purified from mouse T-cell hybridoma DO-11.10
Isotype:	Armenian Hamster IgG2, λ 1
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing protein stabilizer and $\leq 0.09\%$ sodium azide.

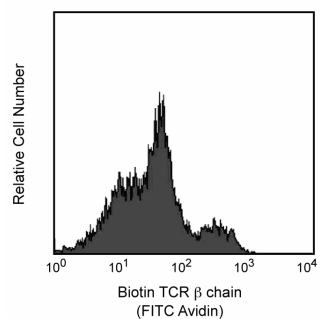
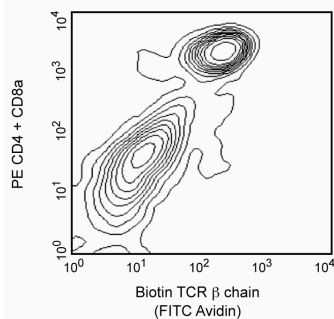
Description

The H57-597 antibody reacts with a common epitope of the β chain of the T-cell Receptor (TCR) complex on $\alpha\beta$ TCR-expressing thymocytes and peripheral T lymphocytes and NK1.1+ thymocytes and NK-T cells of all mouse strains tested. It does not react with $\gamma\delta$ TCR-bearing T cells. In the fetal and adult thymus, the TCR β chain may form homodimers or pair with the pre-TCR α chain on the surface of immature thymocytes before expression of the TCR α chain. Plate-bound or soluble H57-597 antibody activates $\alpha\beta$ TCR-bearing T cells, and plate-bound mAb can induce apoptotic death.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.



$\alpha\beta$ TCR expression in spleen and thymus. BALB/c splenocytes (left panels) were simultaneously stained with PE-conjugated anti-mouse CD4 mAb RM4-5 (Cat. No. 553048/553049), PE-conjugated anti-mouse CD8a mAb 53-6.7 (Cat. No. 553032/553033), and either biotinylated Hamster IgG2, λ isotype control mAb Ha4/8 (Cat. No. 553963, top left panel) or biotinylated mAb H57-597 (bottom left panel) monoclonal antibodies, followed by Avidin-FITC (Cat. No. 554057). BALB/c thymocytes (right panels) were stained with either biotinylated isotype control (top right panel) or biotinylated mAb H57-597 (bottom right panel), followed by Avidin-FITC. Flow cytometry was performed on a BD FACScan™ flow cytometry system.



Preparation and Storage

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.

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

Application Notes

Application

BD Biosciences

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Flow cytometry	Routinely Tested
Immunohistochemistry	Tested During Development

Recommended Assay Procedure:

It has been observed that pre-incubation of thymus cell suspensions at 37°C for 2 to 4 hours prior to staining enhances the ability of anti-CD3e and anti-TCR β chain mAbs to detect the T cell receptor on immature thymocytes.

Suggested Companion Products

Catalog Number	Name	Size	Clone
553048	PE Rat Anti-Mouse CD4	0.1 mg	RM4-5
553032	PE Rat Anti-Mouse CD8a	0.1 mg	53-6.7
553963	Biotin Hamster IgG2, λ 1 Isotype Control	0.25 mg	Ha4/8
554057	Avidin FITC	0.5 mg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharminggen/protocols for technical protocols.
3. Although hamster immunoglobulin isotypes have not been well defined, BD Biosciences Pharmingen has grouped Armenian and Syrian hamster IgG monoclonal antibodies according to their reactivity with a panel of mouse anti-hamster IgG mAbs. A table of the hamster IgG groups, Reactivity of Mouse Anti-Hamster Ig mAbs, may be viewed at http://www.bdbiosciences.com/pharminggen/hamster_chart_11x17.pdf.
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

- Bendelac A, Killeen N, Littman DR, Schwartz RH. A subset of CD4+ thymocytes selected by MHC class I molecules. *Science*. 1994; 263(5154):1774-1778. (Biology)
- Duke RC, Cohen JJ, Boehme SA, et al. Morphological, biochemical, and flow cytometric assays of apoptosis. In: Coligan J, Kruisbeek AM, Margulies D, Shevach EM, Strober W, ed. *Current Protocols in Immunology*. New York: John Wiley and Sons; 1995:3.17.1-3.17.33. (Biology)
- Gascoigne NR. Transport and secretion of truncated T cell receptor beta-chain occurs in the absence of association with CD3. *J Biol Chem*. 1990; 265(16):9296-9301. (Clone-specific: Immunoprecipitation)
- Groettrup M, von Boehmer H. T cell receptor beta chain dimers on immature thymocytes from normal mice. *Eur J Immunol*. 1993; 23(6):1393-1396. (Biology)
- Kruisbeek AM, Shevach EM. Proliferative assays for T cell function. In: Coligan J, Kruisbeek AM, Margulies D, Shevach EM, Strober W, ed. *Current Protocols in Immunology*. New York: John Wiley and Sons; 1991:3.12.1-3.12.14. (Clone-specific: Stimulation)
- Kubo RT, Born W, Kappler JW, Marrack P, Pigeon M. Characterization of a monoclonal antibody which detects all murine alpha beta T cell receptors. *J Immunol*. 1989; 142(8):2736-2742. (Immunogen: Flow cytometry)
- Lefrancois L. Phenotypic complexity of intraepithelial lymphocytes of the small intestine. *J Immunol*. 1991; 147(6):1746-1751. (Biology)
- Saint-Ruf C, Ungewiss K, Groettrup M, Bruno L, Fehling HJ, von Boehmer H. Analysis and expression of a cloned pre-T cell receptor gene. *Science*. 1994; 266(5188):1208-1212. (Clone-specific: Stimulation)
- Vicari AP, Zlotnik A. Mouse NK1.1+ T cells: a new family of T cells. *Immunol Today*. 1996; 17(2):71-76. (Biology)