Technical Data Sheet

Biotin Hamster Anti-Mouse CD3e

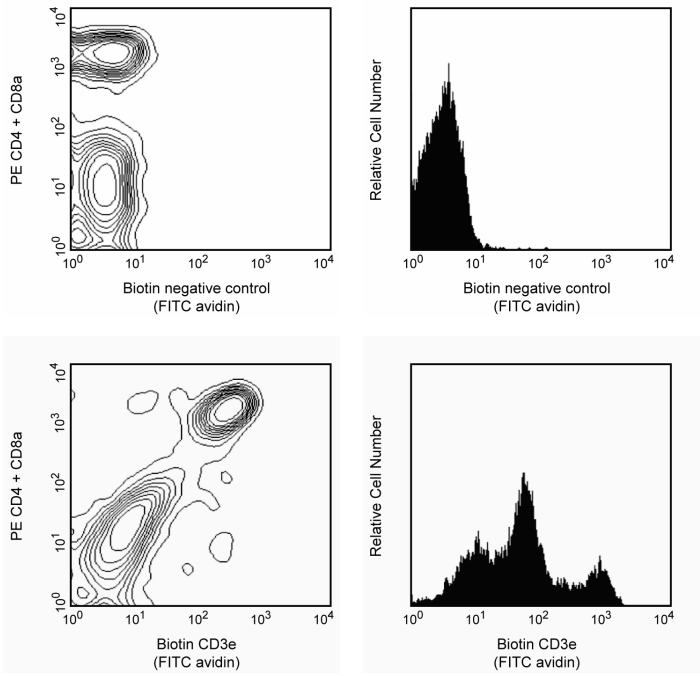
Product Information

Material Number:	**553239**
Alternate Name:	CD3ε chain
Size:	0.5 mg
Concentration:	0.5 mg/ml
Clone:	500A2
Immunogen:	Mouse T-cell receptor
Isotype:	Syrian Hamster IgG2, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

This antibody has been reported to react with the 25-kDa ε chain of the T-cell receptor-associated CD3 complex expressed on thymocytes, mature T lymphocytes, and NK-T cells on many mouse stains. Plate-bound and soluble hamster anti-mouse CD3e (clone 500A2) antibody has been reported to activate unprimed T cells in vitro. Activation of a mouse T-cell clone by soluble hamster anti-mouse CD3e (clone 500A2) can be blocked by Fab fragments of anti-CD4 antibody GK1.5, suggesting that the hamster anti-mouse CD3e (clone 500A2) antibody may bind an epitope of CD3e close to a site at which CD4 associates with the T-cell receptor. This hamster mAb to a mouse leukocyte antigen has been reported not to cross-react with rat leukocytes.

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.



CD3e expression in spleen and thymus. *BALB/c splenocytes were simultaneously stained with PE-conjugated anti-mouse CD4 mAb RM4-5 (Cat. No. 553048/553049, Panels A and C), PE-conjugated anti-mouse CD8a mAb 53-6.7 (Cat. No. 553032/553033, left panels), and biotinylated mAb 500A2 (bottom left panel), followed by Avidin-FITC (Cat. No. 554057, left panels). BALB/c thymocytes were stained with biotinylated 500A2 (bottom right panel) followed by Avidin-FITC (right panels). 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.

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Application Notes

Application

Flow cytometry	Routinely Tested

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-αβ TCR mAbs to detect the T-cell receptor on immature thymocytes.

Suggested Companion Products

Catalog Number	Name	Size	Clone
550084	Biotin Hamster IgG2, κ Isotype Control	0.25 mg	B81-3
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/pharmingen/protocols for technical protocols.
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. 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/pharmingen/hamster_chart_11x17.pdf.

References

Allison JP, Havran WL, Poenie M, et al. Expression and function of CD3 on murine thymocytes. In: Kappler J, Davis M, ed. *The T-Cell Receptor, UCLA Symposia, 73rd Edition.* Los Angeles: 1988:33-45.(Immunogen)

Havran WL, Poenie M, Kimura J, Tsien R, Weiss A, Allison JP. Expression and function of the CD3-antigen receptor on murine CD4+8+ thymocytes. *Nature.* 1987; 330(6144):170-173.(Biology)

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.(Methodology)

Ortaldo JR, Winkler-Pickett R, Mason AT, Mason LH. The Ly-49 family: regulation of cytotoxicity and cytokine production in murine CD3+ cells. *J Immunol.* 1998; 160(1):1158-1165.(Biology)

Portoles P, Rojo J, Golby A, et al. Monoclonal antibodies to murine CD3 epsilon define distinct epitopes, one of which may interact with CD4 during T cell activation. *J Immunol.* 1989; 142(12):4169-4175.(Methodology)