

Technical Data Sheet

BV510 Hamster Anti-Mouse TCR β Chain

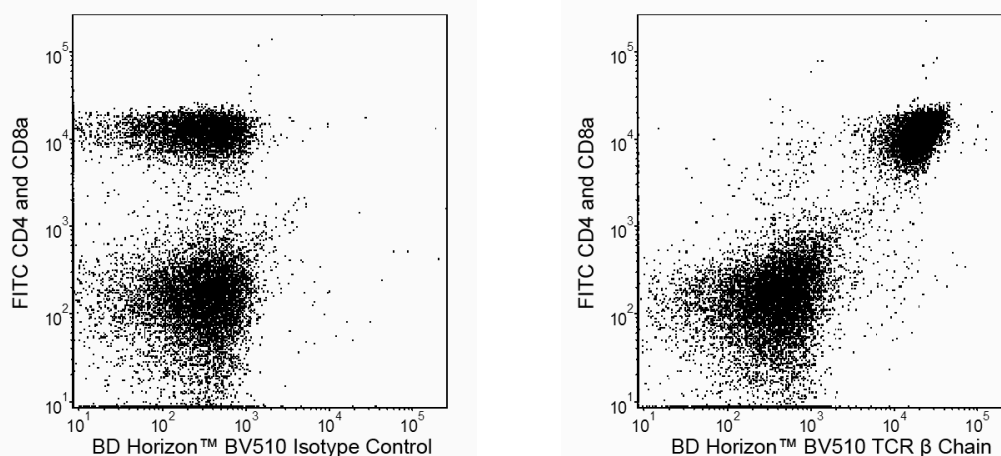
Product Information

Material Number:	563221
Alternate Name:	Tcrb; TCRbeta; TCR β , T cell receptor beta chain
Size:	50 μ g
Concentration:	0.2 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 BSA 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.

The antibody was conjugated to BD Horizon™ BV510 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon™ BV510 can be excited by the violet laser and detected in the BD Horizon™ V500 (525/50-nm) filter set. BD Horizon™ BV510 conjugates are useful for the detection of dim markers off the violet laser.



Two-color flow cytometric analysis of TCR β expression on mouse splenocytes. Mouse splenic leucocytes were incubated with Purified Rat Anti-Mouse CD16/CD32 antibody (Mouse BD Fc Block™) (Cat. No. 553141/553142). The cells were then stained with FITC Rat Anti-Mouse CD4 (Cat. No. 553047/553046/561835) and FITC Rat Anti-Mouse CD8a (Cat. No. 553031/553030/561966) antibodies and either BD Horizon™ BV510 Hamster IgG2, λ 1 Isotype Control (Cat. No. 563085, Left Panel) or BD Horizon™ BV510 Hamster Anti-Mouse TCR β Chain antibody (Cat. No. 563221; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of TCR β (or Ig Isotype control staining) versus CD4 and CD8a 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™ BV510 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV510 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
563085	BV510 Hamster IgG2, λ 1 Isotype Control	50 μ g	Ha4/8
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Brilliant Violet™ 510 is a trademark of Sirigen.
8. 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/documents/hamster_chart_11x17.pdf.

References

Castro JE, Listman JA, Jacobson BA, et al. Fas modulation of apoptosis during negative selection of thymocytes. *Immunity*. 1996; 5(6):617-627. (Clone-specific: Flow cytometry, Fluorescence microscopy, Immunofluorescence)

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: Immunofluorescence, Immunoprecipitation)

Kruisbeek AM, Shevach EM. Proliferative assays for T cell function. *Curr Protoc Immunol*. 2004; 1:3.12.1-3.12.14. (Clone-specific: Activation, Functional assay, 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: Activation, Flow cytometry, Functional assay, Stimulation)

Saint-Ruf C, Panigada M, Azogui O, Debey P, von Boehmer H, Grassi F. Different initiation of pre-TCR and gammadeltaTCR signalling. *Nature*. 2000; 406(6795):524-527. (Clone-specific: Flow cytometry, Fluorescence microscopy, Immunofluorescence, Immunoprecipitation, Western blot)

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