

## Technical Data Sheet

**PE Mouse Anti-Human Cβ1 TCR****Product Information**

<b>Material Number:</b>	565776
<b>Alternate Name:</b>	T-cell receptor beta locus; TCRB; TRB; TRB@; TRCB1
<b>Size:</b>	50 Tests
<b>Vol. per Test:</b>	5 µl/test
<b>Clone:</b>	JOVI.1
<b>Immunogen:</b>	Lymphoid cells from Mouse transgenic for Human HA1.7 cell TCRbeta
<b>Isotype:</b>	Mouse IgG2a, κ
<b>Reactivity:</b>	QC Testing: Human
<b>RRID:</b>	AB_2739349
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

**Description**

The JOVI.1 monoclonal antibody recognizes an epitope common to a large proportion of human CD4+ or CD8+ T lymphocytes that express the T cell receptor beta chain (TCRβ). The antibody was generated from a mouse immunized with transgenic mouse lymphoid cells that expressed the rearranged human Vβ3-Cβ1 TCR chain derived from the cloned human HA1.7 T helper cell. This antibody reacts with TCR-Cβ1+ T cells and one of several different TCRβ V regions, but not with TCR-Cβ2+ T cells. JOVI.1 antibody reportedly recognized several Cβ1 TCR expressing cell lines or clones including Jurkat, CH7C17, and HA1.7 cells. The JOVI.1 antibody can be used to stimulate proliferative responses by JOVI.1-positive T cells. It can also reportedly be used for immunoprecipitation and to stain JOVI.1+ T cells in frozen tissue sections.

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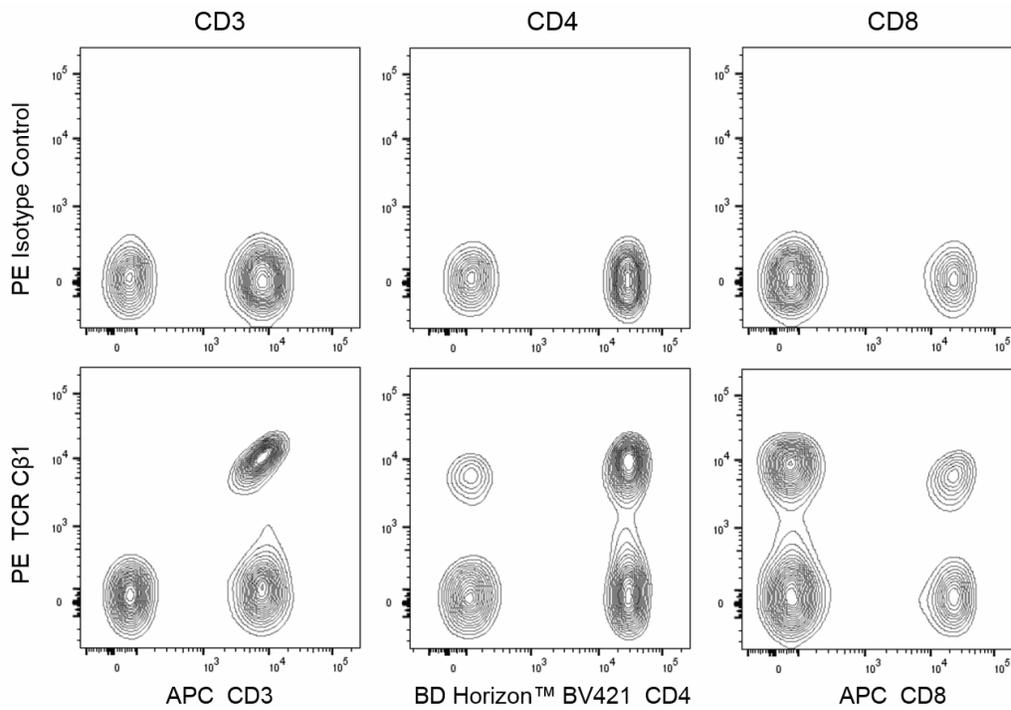
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565776 Rev. 2





**Multicolor flow cytometric analysis of TCR C $\beta$ 1 expression by human peripheral blood lymphocytes.** Human peripheral blood was treated with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899) to lyse erythrocytes. After washing, the cells were stained with either APC Mouse Anti-Human CD3 (Left Plots; Cat. No. 555335/561810/561811), BD Horizon™ BV421 Mouse Anti-Human CD4 (Middle Plots; Cat. No. 562424/562425), or APC Mouse Anti-Human CD8 (Right Plots; Cat. No. 555369/561421/561952/561953) antibody and either PE Mouse IgG2a,  $\kappa$  Isotype Control (Cat. No. 554648; Top Plots) or PE Mouse Anti-Human TCR C $\beta$ 1 antibody (Cat. No. 565776; Bottom Plots) at 1  $\mu$ g/test. Two-color flow cytometric contour plots showing the correlated expression of CD3, CD4 or CD8 versus TCR C $\beta$ 1 (or Ig Isotype Control staining) were derived from gated events with the forward and side light-scatter characteristics of viable human peripheral blood lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ X-20 Flow Cytometer System. Data shown on this Technical Data Sheet are not lot specific.

## 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 to the dye under optimum conditions and unconjugated antibody and free dye were removed.

## Application Notes

### Application

Flow cytometry	Reported
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### Recommended Assay Procedure:

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and CompBead to ensure that BD Comp beads are appropriate for your specific cellular application.

### Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
349202	Lysing Solution 10X Concentrate	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)
554648	PE Mouse IgG2a, $\kappa$ Isotype Control	0.1 mg	G155-178
555335	APC Mouse Anti-Human CD3	100 Tests	UCHT1
561810	APC Mouse Anti-Human CD3	25 Tests	UCHT1
561811	APC Mouse Anti-Human CD3	500 Tests	UCHT1
562424	BV421 Mouse Anti-Human CD4	100 Tests	RPA-T4
562425	BV421 Mouse Anti-Human CD4	25 Tests	RPA-T4

555369	APC Mouse Anti-Human CD8	100 Tests	RPA-T8
561421	APC Mouse Anti-Human CD8	50 Tests	RPA-T8
561952	APC Mouse Anti-Human CD8	25 Tests	RPA-T8
561953	APC Mouse Anti-Human CD8	500 Tests	RPA-T8

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100- $\mu$ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.com/us/s/resources) for technical protocols.

### References

Gil D, Schamel WWA, Montoya M, Sanchez-Madrid F, and Alarcon B. Recruitment of Nck by CD3-epsilon reveals a ligand-induced conformational change essential for T cell receptor signaling and synapse formation . *Cell*. 2002; 109(7):901-912. (Clone-specific: Activation, Functional assay, Immunoprecipitation)

San José E, Alarcón B. Receptor engagement transiently diverts the T cell receptor heterodimer from a constitutive degradation pathway . *J Biol Chem*. 1999; 274(47):33740-6. (Clone-specific: Immunoprecipitation)

Viney JL, Prosser HM, Hewitt CR, Lamb JR, Owen MJ. Generation of monoclonal antibodies against a human T cell receptor beta chain expressed in transgenic mice. *Hybridoma*. 1992; 11(6):701-713. (Immunogen: Activation, Bioassay, Flow cytometry, Functional assay, Immunohistochemistry, Immunoprecipitation, Radioimmunoassay, Stimulation)