Technical Data Sheet

BUV737 Mouse Anti-Human TCR αβ

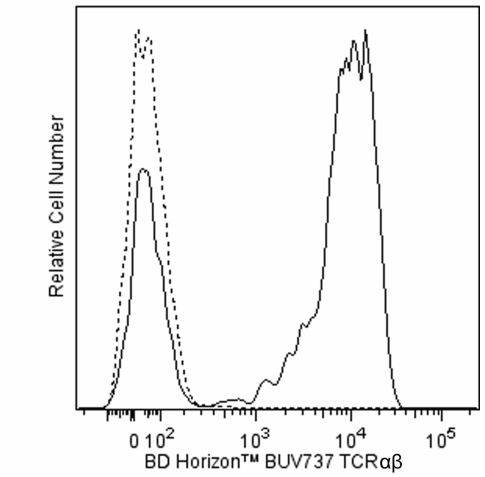
Product Information

Material Number:	**564725**
Alternate Name:	αβ TCR; TCR alpha-beta
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	T10B9.1A-31 (also known as T10B9)
Immunogen:	Human Peripheral Blood T Cells
Isotype:	Mouse (BALB/c) IgM, κ
Reactivity:	QC Testing: Human
Workshop:	V 5T-TCR.01
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The T10B9.1A-31 monoclonal antibody specifically binds to a monomorphic determinant on the αβ T-cell receptor expressed on greater than 95% of normal peripheral blood CD3+ T cells. The αβ TCR recognizes a peptide bound to MHC leading to T-cell activation. The T10B9.1A-31 antibody induces T-cell activation in the immobilized form and is useful in flow cytometry for studying αβ+ T-cell populations.

The antibody was conjugated to BD Horizon BUV737 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome with an Ex Max near 350 nm and an Em Max near 737 nm. BD Horizon Brilliant BUV737 can be excited by the ultraviolet laser (355 nm) and detected with a 740/35 nm filter. Due to the excitation of the acceptor dye by the red laser line, there may be significant spillover into red laser detectors with filters in the 700-720 nm range.



Flow cytometric analysis of TCR αβ expression on human peripheral blood lymphocytes. *Whole blood was stained with either BD Horizon™ BUV737 Mouse IgM, κ Isotype Control (Cat. No. 564711; dashed line histogram) or BD Horizon BUV737 Mouse Anti-Human TCR αβ antibody (Cat. No. 564725; solid line histogram). Erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). The fluorescence histogram showing TCR αβ expression (or Ig Isotype control staining) was derived from gated events with the forward and side light-scatter characteristics of intact lymphocytes. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer 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 BUV737 under optimum conditions, and unconjugated antibody and free BD Horizon BUV737 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Recommended Assay Procedure:

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD 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 BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

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For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

Note: When using high concentrations of antibody, background binding of this dye to erythroid cell subsets (mature erythrocytes and precursors) has been observed. For researchers studying these cell populations, or in cases where light scatter gating does not adequately exclude these cells from the analysis, this background may be an important factor to consider when selecting reagents for panel(s).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
564711	BUV737 Mouse IgM, κ Isotype Control	50 µg	G155-228
349202	BD FACS™ Lysing Solution	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
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 www.bdbiosciences.com/colors.
5. BD Horizon Brilliant Ultraviolet 737 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.
6. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
7. Please refer to http://regdocs.bd.com to access safety data sheets (SDS).
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Brown SA, Lucas BA, Waid TH, et al. T10B9 (MEDI-500) mediated immunosuppression: studies on the mechanism of action. *Clin Transplant.* 1996; 10(6 Pt 2):607-613. (Clone-specific: Activation, Functional assay, In vivo exacerbation, Stimulation)

Schlossman SF. Stuart F. Schlossman .. et al., ed. *Leucocyte typing V : white cell differentiation antigens : proceedings of the fifth international workshop and conference held in Boston, USA, 3-7 November, 1993.* Oxford: Oxford University Press; 1995(Clone-specific: Flow cytometry)

Waid TH, Lucas BA, Amlot P, et al. T10B9.1A-31 anti-T-cell monoclonal antibody: preclinical studies and clinical treatment of solid organ allograft rejection. *Am J Kidney Dis.* 1989; 14(5 Sup 2):61-70. (Clone-specific: Cytotoxicity, Depletion, Functional assay, Immunoprecipitation, Inhibition, In vivo exacerbation)

Waid TH, Lucas BA, Thompson JS, et al. Treatment of renal allograft rejection with T10B9.1A31 or OKT3: final analysis of a phase II clinical trial. *Transplantation.* 1997; 64(2):274-281. (Clone-specific: Depletion, In vivo exacerbation)

Waid TH, Thompson JS, Siemionow M, Brown SA. T10B9 monoclonal antibody: a short-acting nonstimulating monoclonal antibody that spares gammadelta T-cells and treats and prevents cellular rejection. *Drug Des Devel Ther.* 2009; 3:205-212. (Immunogen: Depletion)