Technical Data Sheet

PE-CF594 Mouse Anti-Human TCR γδ

Product Information

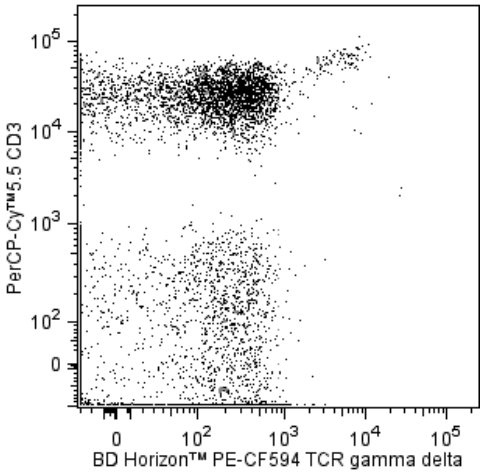
Material Number:	**562511**
Alternate Name:	TCRgd; γδ TCR; TRG@, TRD@; TCRG, TCRD; TCR gamma delta
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	B1
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The B1 monoclonal antibody specifically binds to the γδ T cell receptor (γδ TCR). This receptor complex consists of two disulfide-linked transmembrane glycoproteins, a γ chain (45-60 kDa) and a δ subunit (40-60 kDa). The γδ TCR is associated with the signal-transducing CD3 complex. The γδ TCR is expressed by thymocytes and by peripheral T cell subsets (γδ T cells) that are located in the blood, liver, skin and various lymphoid and mucosal tissues. γδ T cells contribute to both innate and adaptive immune responses to infections and tumors. Reports suggest that γδ T cells may also play roles in antigen presentation and the regulation of autoimmune responses.

Due to the fact that CD3 and γδ TCR antibodies may recognize epitopes which are very close to each other and that CD3 was interfering with the clone B1 antibody binding but not with the clone 11F2 antibody, we recommend to use clone 11F2 antibody to perform double staining of γδ TCR and CD3.

This antibody is conjugated to BD Horizon™ PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg 610/20-nm filter).



Multicolor flow cytometric analysis of TCR γδ expressed on human peripheral blood lymphocyes. *Human whole blood was stained with BD Horizon™ PE-CF594 Mouse Anti-Human TCR γδ antibody (Cat No. 562511) in conjunction with PerCP-Cy™5.5 Mouse Anti-Human CD3 antibody (Cat. No. 560835). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). A two-color flow cytometric dot plot was derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry 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™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
555899	Lysing Buffer	100 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)
560835	PerCP-Cy™5.5 Mouse Anti-Human CD3	50 tests	UCHT1

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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
9. CF™ is a trademark of Biotium, Inc.
10. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
11. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer's own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.
12. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CF™594.
13. Cy is a trademark of Amersham Biosciences Limited.

References

Bonneville M, O'Brien RL, Born WK. Gammadelta T cell effector functions: a blend of innate programming and acquired plasticity. *Nat Rev Immunol.* 2110; 10(7):467-478. (Biology)

De Libero G. Sentinel function of broadly reactive human gamma delta T cells. *Immunol Today.* 1997; 18(1):22-26. (Biology)

Kabelitz D. γδ T-cells: cross-talk between innate and adaptive immunity. *Cell Mol Life Sci.* 2011; 68(14):2331-2333. (Biology)

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