Technical Data Sheet

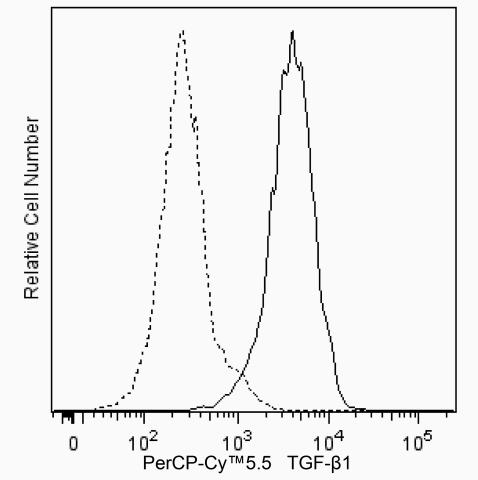
PerCP-Cy™5.5 Mouse Anti-Human TGF-β1

Product Information

Material Number:	**562423**
Alternate Name:	TGFB1; TGFbeta1; TGF-beta-1; Transforming growth factor, beta 1; CED; LAP
Size:	50 tests
Vol. per Test:	5 µl
Clone:	TW4-9E7
Immunogen:	Human TGF-β1 Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The TW4-9E7 monoclonal antibody specifically binds to Human Transforming Growth Factor beta-1 (TGF-β1). TGF-β1 is a potent multifunctional cytokine that positively or negatively regulates numerous processes including development, hematopoiesis, tissue remodeling, wound repair, innate and adaptive immunity as well as cancer and autoimmune diseases. TGF-β1 is formed by the enzymatic cleavage of the TGF-β1 propeptide that is encoded by the *TGFB1* gene and comprised of the Latency Associated Peptide (LAP) and TGF-β1. Prior to secretion, the dimeric LAP-TGF-β1 propeptide is cleaved resulting in a biologically inactive form of dimeric TGF-β1 that is noncovalently associated with dimeric LAP (latent TGF-β1). This complex may be expressed on the surface of TGF-β1-producing cells or be further processed by proteolytic removal of LAP to release the biologically active mature form of the soluble TGF-β1 homodimer. Many different cell types synthesize TGF-β1 and express specific receptors for it. The TW4-9E7 antibody recognizes both the intracellular latent bound form of TGF-β1 along with the membrane bound form of TGF-β1.



Flow cytometric analysis of human TGF-β1 expressed by TGF-β1-transfected P3UI cells. *Untransfected mouse P3UI myeloma cells (dashed line histogram) and human TGF-β1-transfected P3UI cells (solid line histogram) were fixed and permeabilized for 30 minutes with BD Cytofix/Cytoperm™ Fixation and Permeabilization Solution (Cat. No. 554722) and washed with BD Perm/Wash™ Buffer (Cat. No. 554723). The cells were then stained with PerCP-Cy™5.5 Mouse Anti-Human TGF-β1 antibody (Cat. No. 562423). The flow cytometric fluorescence histograms were derived from gated events with the forward- and side light-scattering characteristics of intact cells. 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 PerCP-Cy5.5 under optimum conditions, and unconjugated antibody and free PerCP-Cy5.5 were removed. Storage of PerCP-Cy5.5 conjugates in unoptimized diluent is not recommended and may result in loss of signal intensity.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
554722	Fixation and Permeabilization Solution	125 ml	(none)
554723	Perm/Wash Buffer	100 ml	(none)

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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. 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/pharmingen/protocols for technical protocols.
5. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
6. 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.
7. 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.
8. PerCP-Cy5.5–labelled antibodies can be used with FITC- and R-PE–labelled reagents in single-laser flow cytometers with no significant spectral overlap of PerCP-Cy5.5, FITC, and R-PE fluorescence.
9. PerCP-Cy5.5 is optimized for use with a single argon ion laser emitting 488-nm light. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using dual-laser cytometers, which may directly excite both PerCP and Cy5.5™. We recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
10. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
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References

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Derynck R, Jarrett JA, Chen EY, et al. Human transforming growth factor-beta complementary DNA sequence and expression in normal and transformed cells. *Nature.* 1985; 316(6030):701-705. (Biology)

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