Technical Data Sheet

PE-CF594 Mouse Anti-Human CD134

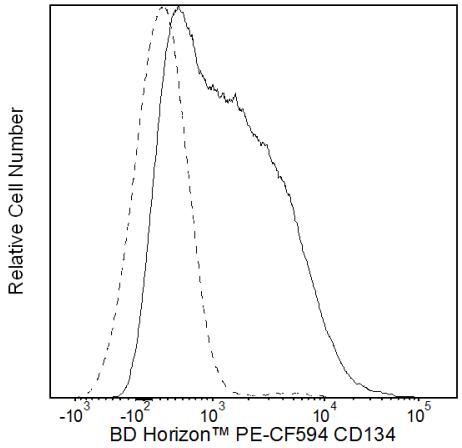
Product Information

Material Number:	**563662**
Alternate Name:	OX40; TNFRSF4; TXGP1L; OX40L Receptor
Size:	50 tests
Vol. per Test:	5 µl
Clone:	ACT35 (also known as Ber-ACT35)
Immunogen:	Human HUT 102
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	IV A107, V BP048, V A068, VI C-31
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The ACT35 monoclonal antibody specifically binds to CD134 which is also known as OX40. The 35 kDa CD134 polypeptide is encoded by the *TNFRSF4* gene. CD134 is a type I integral membrane glycoprotein and member of the tumor necrosis factor/nerve growth factor receptor (TNFR/NGFR) family. CD134 is expressed on activated T lymphocytes, hematopoietic precursor cells and fibroblasts. CD134 functions as a T cell costimulatory receptor when bound by OX40 Ligand/TNFSF4 that is expressed by antigen presenting cells. CD134 thereby plays roles in T-cell activation as well as the regulation of differentiation, proliferation or apoptosis of normal and malignant lymphoid cells. Analysis of the nucleotide sequence of the human *TNFRSF4* cDNA reveals strong homology with the rat *Tnfrsf4* cDNA sequence. OX40 was clustered as CD134 in the Sixth International Workshop on Human Leukocyte Differentiation Antigens.

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).



Flow cytometric analysis of CD134 expression on stimulated human peripheral blood lymphocytes. *Phytohemagglutinin-stimulated (PHA; Sigma L-1668; 3 days) peripheral blood mononuclear cells were stained with either BD Horizon™ PE-CF594 Mouse Anti-Human CD134 antibody (Cat. No. 563662; solid line histogram) or with BD Horizon™ PE-CF594 Mouse IgG1, κ Isotype Control (Cat. No. 562292; dashed line histogram). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphoblasts. 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™ 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
554656	Stain Buffer (FBS)	500 ml	(none)
562292	PE-CF594 Mouse IgG1, κ Isotype Control	0.1 mg	X40

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. 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.

References

Harrop JA, Spampinato J, Reddy M, Eichman C, Cook R, Truneh A. CD134 Workshop: Kinetics of expression of tumor necrosis factor receptor molecules and other cytokine receptors on activated CD4-positive cells. In: Kishimoto T, von dem Borne AEG, Goyert SM,et al., ed. *Leucocyte Typing VI: White Cell Differentiation Antigens.* London: Garland Publishing; 1997:871-873. (Clone-specific: Flow cytometry)

Latza U, Durkop H, Schnittger S, et al. The human OX40 homolog: cDNA structure, expression and chromosomal assignment of the ACT35 antigen. *Eur J Immunol.* 1994; 24(3):677-683. (Clone-specific: Western blot)

Merl A, Pohla H, Adibzadeh M, Paelec G. CD13r Workshop: Expression of cytokine receptors on anergic CD4-positive TCR2-positive TH0 cell clones. In: Kishimoto T, von dem Borne AEG, Goyert SM,et al., ed. *Leucocyte Typing VI: White Cell Differentiation Antigens.* London: Garland Publishing; 1997:873-875. (Clone-specific: Flow cytometry)

Moffat S, Higashimura N, Sugamura K. CD134 (OX40) Workshop Panel report. In: Kishimoto T, von dem Borne AEG, Goyert SM,et al., ed. *Leucocyte Typing VI: White Cell Differentiation Antigens.* London: Garland Publishing; 1997:869-871. (Clone-specific: Flow cytometry)

Schlossman S, Boumell L, et al, ed. *Leucocyte Typing V.* New York: Oxford University Press; 1995. (Clone-specific)

Schwarting R, Stein H. ACT35: a new mAb recognizing a 35-kDa antigen with a tissue distribution similar to that of the CD25 molecule (interleukin-2 receptor). In: Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV: White Cell Differentiation Antigens.* New York, NY: Oxford University Press; 1989:464-465. (Immunogen: Flow cytometry, Immunohistochemistry, Immunoprecipitation)

Schwarting R, Stein H. Report on single/unclustered and provisionally grouped antibodies. In: Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV: White Cell Differentiation Antigens.* New York, NY: Oxford University Press; 1989:460-463. (Clone-specific: Flow cytometry, Immunoprecipitation)

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