Technical Data Sheet

PE-CF594 Rat Anti-Mouse CD135

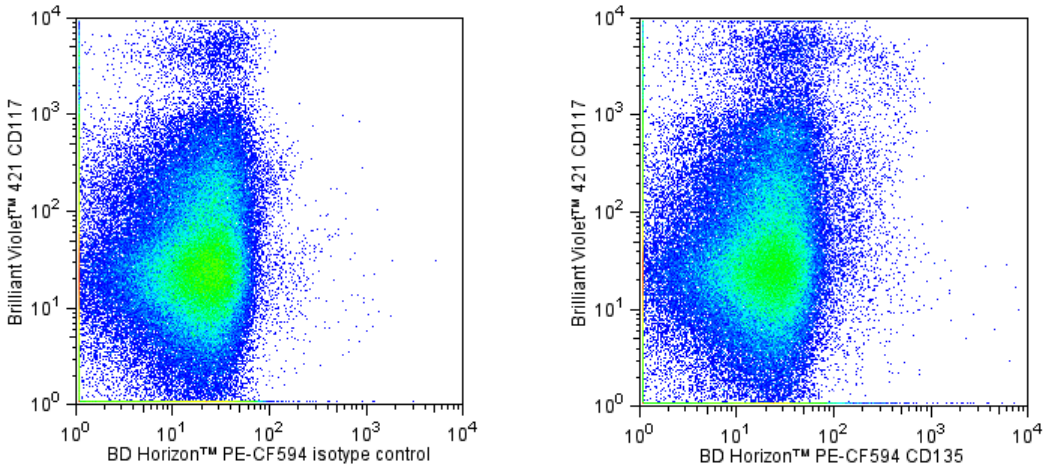
Product Information

Material Number:	**562537**
Alternate Name:	Flt3; Fms-like tyrosine kinase 3; FLT-3; FLK-2; Fetal liver kinase 2; Ly72
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	A2F10.1
Immunogen:	Mouse Flt-3 Transfected Cell Line
Isotype:	Rat (WI) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The A2F10 monoclonal antibody specifically binds to Flk-2/Flt3 (Ly-72, CD135), a receptor protein tyrosine kinase closely related to c-kit, c-fms, and PDGF Receptor of the immunoglobulin superfamily. The *Flt3* message is detected in hematopoietic stem cells and primitive progenitor cells in fetal liver, adult bone marrow, and fetal and adult thymus, as well as brain, placenta, and testis; but it is absent in more mature hematopoietic cells. In flow cytometric analysis, the A2F10 antibody recognizes *Flt3*-transfected Y3 cells (rat myeloma), but not the parent cell line in addition to recognizing early B lymphoid lineage cells in juvenile and adult bone marrow. A role for CD135 in the regulation of hematopoiesis is suggested by the observations that soluble Flk-2/Flt3 ligand can both stimulate proliferation of stem cell-enriched fetal liver, fetal thymus, and adult bone marrow populations and enhance their responses to other growth factors *in vitro*. In addition, injection of Flk-2/Flt3 ligand stimulates extramedullary hematopoiesis in the mouse spleen and accumulation of dendritic cells in the hematopoietic system. mAb A2F10.1 is reported to immunoprecipitate a 150-kDa surface protein from the murine myeloblast cell line M1, which naturally expresses CD135, and to inhibit the binding of Flk-2/Flt3 ligand to CD135.

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 CD135 expression on C57BL/6 bone marrow cells. *Mouse bone marrows cells from C57BL/6 mice were stained with BD Pharmingen™ Brilliant Violet™ 421 Rat Anti-Mouse CD117 antibody (Cat. No. 562609) and BD Horizon™ PE-CF594 Rat IgG2a, κ Isotype Control (Cat. No. 562302, Left Panel) or BD Horizon™ PE-CF594 Rat Anti-Mouse CD135 antibody (Cat. No. 562537, Right Panel). Two-color flow cytometric dot plots showing the correlated expression of CD135 (or Ig Isotype Control background staining) versus CD117 were derived from gated events with the forward and side light-scatter characteristics of viable bone marrow cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

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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

Suggested Companion Products

Catalog Number	Name	Size	Clone
562302	PE-CF594 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
562609	Brilliant Violet™ 421 Rat Anti-Mouse CD117	50 µg	2B8

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
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

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