

## Technical Data Sheet

## PE-CF594 Mouse Anti-Human CD123

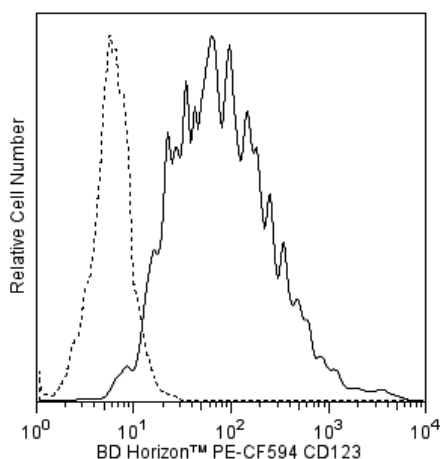
## Product Information

<b>Material Number:</b>	<b>562391</b>
<b>Alternate Name:</b>	IL3RA; IL-3RA; IL-3Fα; IL-3R-α; Interleukin-3 receptor subunit alpha
<b>Size:</b>	50 tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	7G3
<b>Immunogen:</b>	Human IL-3Ra-transfected cells
<b>Isotype:</b>	Mouse IgG2a, κ
<b>Reactivity:</b>	QC Testing: Human
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

## Description

The 7G3 monoclonal antibody specifically reacts with human CD123, the 70 kD IL-3 receptor  $\alpha$  chain (IL-3R $\alpha$ ), which associates with the 120-140 kD  $\beta$  subunit. The  $\beta$  chain is shared with the receptors for interleukins IL-5 and GM-CSF. IL-3R $\alpha$  is expressed on hematopoietic progenitors and plays an important role in hematopoietic progenitor cell growth and differentiation. It is also expressed by mast cells, macrophages and a CD5+ B cell subset. This antibody has been reported to block the binding of 125I-IL-3 to high and low affinity IL-3 receptors. In functional experiments, this antibody was found to inhibit acute myeloid leukemia cell proliferation, basophil histamine release, endothelial cell-mediated IL-8 secretion, and neutrophil transmigration. This antibody has been reported to be useful for immunoprecipitation, Western blot and immunofluorescent staining for flow cytometry. At the Fifth HLDA Workshop, the human IL-3 receptor was designated CD123.

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 human CD123 (IL3-R $\alpha$ ) expressed on cells transfected with human IL3-R $\alpha$  cDNA.** Cells transfected with human IL3-R $\alpha$  cDNA were stained with either BD Horizon™ PE-CF594 Mouse Anti-Human CD123 antibody (Cat. No. 562391; solid line histogram) or with a BD Horizon™ PE-CF594 Mouse IgG2a,  $\kappa$  Isotype Control (Cat. No. 562306; dashed line histogram). Flow cytometric fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometry 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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## BD Biosciences

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## Suggested Companion Products

Catalog Number	Name	Size	Clone
562306	PE-CF594 Mouse IgG2a, $\kappa$ Isotype Control	0.1 mg	G155-178
554656	Stain Buffer (FBS)	500 ml	(none)

## Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100- $\mu$ l 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 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.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
7. CF<sup>TM</sup> is a trademark of Biotium, Inc.
8. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
9. 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](mailto:btinfo@biotium.com).
10. 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<sup>TM</sup>594.
11. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
12. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

## References

Macardle PJ, Chen Z, Shih CY, et al. Characterization of human leucocytes bearing the IL-3 receptor. *Cell Immunol.* 1996; 168(1):59-68. (Biology)

Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens*. New York: Oxford University Press; 1995. (Clone-specific)

Sun Q, Woodcock JM, Rapoport A, et al. Monoclonal antibody 7G3 recognizes the N-terminal domain of the human interleukin-3 (IL-3) receptor alpha-chain and functions as a specific IL-3 receptor antagonist. *Blood.* 1996; 87(1):83-92. (Immunogen: Blocking, Immunoprecipitation, Neutralization, Western blot)

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