Technical Data Sheet

BUV395 Mouse Anti-Human CD123

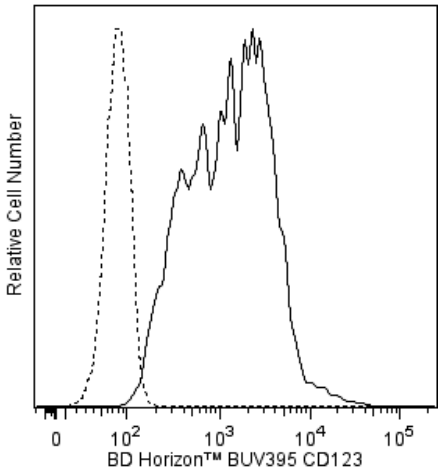
Product Information

Material Number:	**564195**
Alternate Name:	IL3RA; IL-3RA; IL-3Rα; IL-3R-alpha; Interleukin-3 receptor subunit alpha
Size:	50 tests
Vol. per Test:	5 µl
Clone:	7G3
Immunogen:	Human IL-3Ra-transfected cells
Isotype:	Mouse IgG2a, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 7G3 monoclonal antibody specifically reacts with human CD123, the 70 kDa IL-3 Receptor α (IL-3Rα) chain. CD123 associates with CD131, the 120-140 kDa Common β chain to form the IL-3 Receptor Complex. CD131 is shared with the receptors for interleukins IL-5 and GM-CSF. IL-3Rα 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.

The antibody was conjugated to BD Horizon™ BUV395 which has been exclusively developed by BD Biosciences as an optimal dye for use on a 355 nm laser equipped instrument. With an Ex Max at 348 nm and an Em Max at 395 nm, this dye has virtually no spillover into any other detector. BD Horizon™ BUV395 can be excited with a 355 nm laser and detected with a 379/28 filter.



Flow cytometric analysis of human CD123 expression on cells transfected with human IL3RA. *Cells from a human IL3RA-transfected Chinese Hamster Ovary (CHO) cell line were stained with either BD Horizon™ BUV395 Mouse IgG2a, κ Isotype Control (Cat. No. 563809; dashed line histogram) or BD Horizon BUV395 Mouse Anti-Human CD123 antibody (Cat. No. 564195; solid line histogram). Fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometric analysis was performed using a BD LSRFortessa™ Cell Analyzer 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™ BUV395 under optimum conditions, and unconjugated antibody and free BD Horizon™ BUV395 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)
554657	Stain Buffer (BSA)	500 ml	(none)
563809	BUV395 Mouse IgG2a, κ Isotype Control	50 µg	G155-178

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. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Korpelainen EI, Gamble JR, Smith WB, et al. The receptor for interleukin 3 is selectively induced in human endothelial cells by tumor necrosis factor alpha and potentiates interleukin 8 secretion and neutrophil transmigration. *Proc Natl Acad Sci U S A.* 1993; 90(23):11137-11141. (Biology)

Macardle PJ, Chen Z, Shih CY, Huang CM, Weedon H, Sun Q, Lopez AF, Zola H. Characterization of human leucocytes bearing the IL-3 receptor. *Cell Immunol.* 1996; 168(1):59-68. (Clone-specific: Flow cytometry, Fluorescence microscopy, Immunofluorescence)

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

Smith WB, Guida L, Sun Q, Korpelainen EI, van den Heuvel C, Gillis D, Hawrylowicz CM, Vadas MA, Lopez AF. Neutrophils activated by granulocyte-macrophag colony-stimulating factor express receptors for interleukin-3 which mediate class II expression. *Blood.* 1995; 86(10):3938-3944. (Clone-specific: Flow cytometry, Functional assay, Inhibition)

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, Flow cytometry, Immunoprecipitation, Neutralization)

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