Technical Data Sheet

PE Mouse anti-GATA3

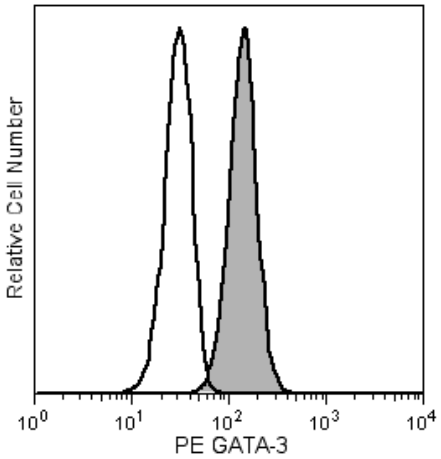
Product Information

Material Number:	**560074**
Size:	50 tests
Vol. per Test:	20 µl
Clone:	L50-823
Immunogen:	Conserved peptide between the trans-activation and DNA-binding domains of human, mouse and rat GATA3
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	Confirmed by flow cytometry: Human, Mouse Confirmed by western blot using purified antibody (Cat. No. 558686): Human, Mouse Predicted: Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

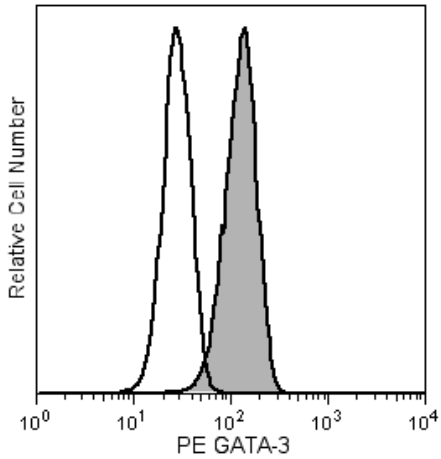
Description

GATA3 (GATA binding protein 3) is a member of the GATA family of transcription factors. This ~50-kDa nuclear protein regulates the development and subsequent maintenance of multiple tissues. GATA3 is involved in the development of T lymphocytes (regulates T cell receptor subunit gene expression) and the differentiation of mature T cells to become Th2 cells. The expressed levels of normal or mutant GATA3 are also associated with the behaviors of various cancer cells including estrogen receptor-positive breast carcinoma cells.

The L50-823 monoclonal antibody recognizes human and mouse GATA3.



Comparison of GATA3 expression in human T and B cell lines. *Jurkat T leukemia (ATCC TIB152, shaded histogram) and Ramos Burkitt's lymphoma (ATCC CRL-1596, open histogram) were fixed with pre-warmed BD Cytofix™ buffer (Cat. No. 554655) for 10 minutes at 37ºC, permeabilized with BD™ Phosflow Perm Buffer III (Cat. No. 558050) on ice for at least 30 minutes, and then stained with either PE Mouse anti-GATA3 or PE Mouse IgG1 κ Isotype control (Cat. No. 559320, not shown). The GATA3 staining on the Jurkat cell line was significantly brighter than the isotype control on Jurkat cells, while the GATA3 staining on the Ramos cells coincided very closely to its isotype control (data not shown). Thus, GATA3 expression was detected on the T cell line but not the B cell line. Flow cytometry was performed on a BD FACSArray™ bioanalyzer system.*



Comparison of GATA3 expression in mouse Th2 and Th1 cell lines. *D10.G4.1 Th2 lymphoblasts (ATCC TIB-224, shaded histogram) and 2D6 Th1 clone (Ahn et al, 1998, open histogram) were fixed with pre-warmed BD Cytofix™ buffer (Cat. No. 554655) for 10 minutes at 37ºC, permeabilized with BD™ Phosflow Perm Buffer III (Cat. No. 558050) on ice for at least 30 minutes, and then stained with either PE Mouse anti-GATA3 or PE Mouse IgG1 κ Isotype control (Cat. No. 559320, not shown). When compared to the respective isotype controls, the GATA3 staining on the D10.G4.1 cell line was significantly brighter than on the 2D6 cells. Flow cytometry was performed on a BD™ FACSArray™ bioanalyzer system.*

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Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Intracellular staining (flow cytometry)	Routinely Tested

Recommended Assay Procedure:

Either BD Cytofix™ fixation buffer or BD™ Phosflow Fix Buffer I may be used for cell fixation.

Suggested Companion Products

Catalog Number	Name	Size	Clone
559320	PE Mouse IgG1, κ Isotype Control	100 tests	MOPC-21
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)
557870	Fix Buffer I	250 ml	(none)

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. 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).
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
4. 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.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Ahn H-J, Maruo S, Tomura M, et al. A mechanism underlying synergy between IL-12 and IFN-γ-inducing factor in enhanced production of IFN-γ. *J Immunol.* 1997; 159:2125-2131. (Methodology)

Asselin-Labat M-L, Sutherland KD, Barker H, et al. Gata-3 is an essential regulator of mammary-gland morphogenesis and luminal-cell differentiation. *Nat Cell Biol.* 2006; 9:201-209. (Biology)

Kouros-Mehr H, Slorach EM, Sternlicht MD, Werb Z. GATA-3 maintains the differentiation of the luminal cell fate in the mammary gland. *Cell.* 2006; 127:1041-1055. (Biology)

Marine J, Winoto A. The human enhancer-binding protein Gata3 binds to several T-cell receptor regulatory elements. *Proc Natl Acad Sci U S A.* 1991; 88(16):7284-7288. (Biology)

Steenbergen RDM, OudeEngberink VE, Kramer D, et al. Down-regulation of GATA-3 expression during human papillomavirus-mediated immortalization and cervical carcinogenesis. *Am J Pathol.* 2002; 160(6):1945-1951. (Biology)

Usary J, Llaca V, Karaca G, et al. Mutation of GATA3 in human breast tumors. *Oncogene.* 2004; 23(46):7669-7678. (Biology)

van Esch H, Groenen P, Nesbit MA, et al. GATA3 haplo-insufficiency causes human HDR syndrome. *Nature.* 2000; 106:419-422. (Biology)

Yang Z, Gu L, Romeo P-H, et al. Human GATA-3 trans-activation, DNA-binding, and nuclear localization activities are organized into distinct structural domains. *Mol Cell Biol.* 1994; 14(3):2201-2212. (Biology)

Zheng W, Flavell RA. The transcription factor GATA-3 is necessary and sufficient for Th2 cytokine gene expression in CD4 T cells. *Cell.* 1997; 89(4):587-596. (Biology)