



**Product Information**

**Catalog Number: 51-9966**

**Contents:** Alexa Fluor® 647 anti-mouse/human Gata-3 (Gata3)

**Catalog Number:** 51-9966

**Sizes:** 25 tests, 100 tests

**Formulation:** Phosphate buffered saline, pH 7.2, less than or equal to 0.09% NaN<sub>3</sub>, BSA and/or gelatin for protein stabilization

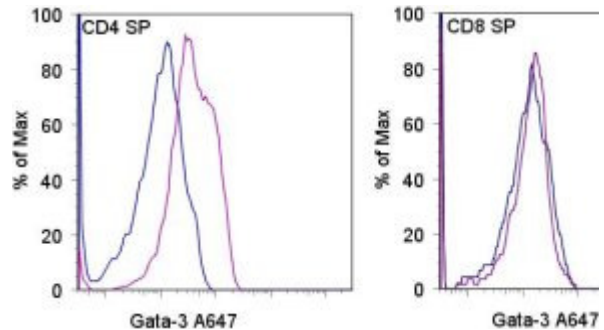
**Storage Conditions:** Store at 4°C.

DO NOT FREEZE.

LIGHT-SENSITIVE MATERIAL.

**Clone:** TWAJ

**Isotype:** Rat IgG2b, k



*Staining of CD4 (cat. 11-0041) single positive (left) or CD8 (cat. 45-0081) single positive (right) BALB/c thymocytes using Foxp3 Buffer Set (cat. 00-5523) with 0.06 µg of Alexa Fluor® 647 Rat IgG2b Isotype Control (cat. 51-4031) (blue histogram) or Alexa Fluor® 647 anti-mouse/human Gata-3 (TWAJ) (purple histogram).*

Available Formats of This Product				
Cat. No.	Format	Excite (nm)	Emit (nm)	Reported Applications
12-9966	Phycoerythrin (PE) anti-mouse/human Gata-3 (Gata3)	488	575	IC Flow
14-9966	Affinity Purified anti-mouse/human Gata-3 (Gata3)	N/A	N/A	WB
51-9966	Alexa Fluor® 647 anti-mouse/human Gata-3 (Gata3)	633	668	IC Flow

**Description**

The monoclonal antibody TWAJ recognizes mouse and human Gata-3, a member of the Gata family of transcription factors. Gata-3 is a T cell specific transcription factor shown to be important for thymic development and Th2 differentiation. Expression during embryonic development is found in the central nervous system, skin, mammary glands and kidney. It's expression is critical as Gata-3 knock-out mice survive to only day 11.5. It's role in thymic development is essential for T cell commitment and survival. In the thymus expression is found mainly on the CD4 single positive cells. In Th2 differentiation Gata-3 binds the IL-4 promoter and the presence of Gata-3 represses T-bet expression, and hence Th1 differentiation.

Alternative splice variants have been reported especially in the MCF7 cell line. The TWAJ anti-mouse/human Gata-3 antibody will recognize both forms (50 and 45kDa) of the protein.

Staining with the TWAJ anti-mouse/human Gata-3 antibody requires the use of the Foxp3 buffers.

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## Applications Reported

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**For research use only, not for diagnostic or therapeutic use.** This TWAJ antibody has been reported for use in intracellular staining followed by flow cytometric analysis. The use of Foxp3 buffers for staining is CRITICAL.

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## Applications Tested

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This TWAJ antibody has been pre-titrated and tested by intracellular staining using Foxp3 buffers and flow cytometric analysis of mouse thymocytes. This can be used at 20 µl (0.06 µg) per million cells in a 100 µl total staining volume.

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## References

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Mantel PY, Kuipers H, Boyman O, Rhyner C, Ouaked N, Rückert B, Karagiannidis C, Lambrecht BN, Hendriks RW, Cramer R, Akdis CA, Blaser K, Schmidt-Weber CB. GATA3-driven Th2 responses inhibit TGF-beta1-induced FOXP3 expression and the formation of regulatory T cells. *PLoS Biol.* 2007 Dec;5(12):e329.

Usary J, Llaca V, Karaca G, Presswala S, Karaca M, He X, Langerød A, Kåresen R, Oh DS, Dressler LG, Lønning PE, Strausberg RL, Chanock S, Børresen-Dale AL, Perou CM. Mutation of GATA3 in human breast tumors. *Oncogene.* 2004 Oct 7;23(46):7669-78.

Hernández-Hoyos G, Anderson MK, Wang C, Rothenberg EV, Alberola-Ila J. GATA-3 expression is controlled by TCR signals and regulates CD4/CD8 differentiation. *Immunity.* 2003 Jul;19(1):83-94.

Pai SY, Truitt ML, Ting CN, Leiden JM, Glimcher LH, Ho IC. Critical roles for transcription factor GATA-3 in thymocyte development. *Immunity.* 2003 Dec;19(6):863-75.

Hendriks RW, Nawijn MC, Engel JD, van Doorninck H, Grosveld F, Karis A. Expression of the transcription factor GATA-3 is required for the development of the earliest T cell progenitors and correlates with stages of cellular proliferation in the thymus. *Eur J Immunol.* 1999 Jun;29(6):1912-8.

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## Related Products

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- Cat. 11-0041 FITC anti-mouse CD4 (L3T4) (clone GK1.5)
- Cat. 45-0081 PerCP-Cy5.5 anti-mouse CD8 (alpha subunit, CD8a, Ly-2) (clone 53-6.7)
- Cat. 51-4031 Alexa Fluor® 647 Rat IgG2b Isotype Control
- Cat. 00-5523 eBioscience Foxp3 Staining Buffer Set

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