

Gata-3 Monoclonal Antibody (TWAJ), Alexa Fluor 488, eBioscience™

Product Details	
Size	100 Tests
Species Reactivity	Human, Mouse, Pig, Rhesus monkey
Published Species	Artificial Control, Mouse
Host/Isotype	Rat / IgG2b, kappa
Recommended Isotype Control	Rat IgG2b kappa Isotype Control (eB149/10H5), Alexa Fluor 488, eBioscience™
Class	Monoclonal
Type	Antibody
Clone	TWAJ
Conjugate	Alexa Fluor® 488
Form	Liquid
Concentration	5 µL/Test
Purification	Affinity chromatography
Storage buffer	PBS, pH 7.2, with 0.1% gelatin, 0.2% BSA
Contains	0.09% sodium azide
Storage Conditions	4° C, store in dark, DO NOT FREEZE!
RRID	AB_2574493

Applications	Tested Dilution	Publications
Western Blot (WB)	-	1 Publication
Immunohistochemistry (IHC)	-	1 Publication
Immunocytochemistry (ICC)	1:250	-
Immunofluorescence (IF)	1:250	-
Flow Cytometry (Flow)	5 µL (0.125 µg)/test	8 Publications

Product Specific Information

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 important for thymic development and Th2 differentiation. Expression during embryonic development is found in the central nervous system, skin, mammary glands and kidney. During development, the expression of Gata-3 is essential as homozygous knock-out of Gata-3 is embryonic lethal. The Gata-3 is also essential for T cell commitment and survival. In the thymus, expression is found mainly on the CD4 single positive cells. During Th2 differentiation, Gata-3 binds to the IL-4 promoter as well as represses the expression of T-bet, thus inhibiting Th1 differentiation.

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

Staining with the TWAJ Human/Mouse Gata-3 antibody requires the use of the Foxp3/Transcription Factor Staining Buffer Set.(cat

00-5523)

Crossreactivity in rhesus monkeys has been published.

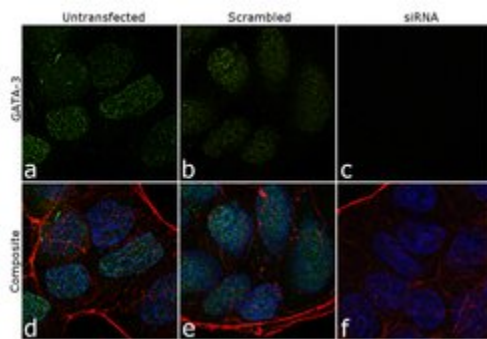
Applications Reported: This TWAJ antibody has been reported for use in intracellular staining followed by flow cytometric analysis.

Applications Tested: This TWAJ antibody has been pre-titrated and tested by intracellular staining and flow cytometric analysis of mouse thymocytes using the Foxp3/Transcription Factor Staining Buffer Set (cat. 00-5523) and protocol. Please refer to Best Protocols: Protocol B: One step protocol for (nuclear) intracellular proteins located under the Resources Tab online. This can be used at 5 μ L (0.125 μ g) per test. A test is defined as the amount (μ g) of antibody that will stain a cell sample in a final volume of 100 μ L. Cell number should be determined empirically but can range from 10^5 to 10^8 cells/test.

Excitation: 488 nm; Emission: 519 nm; Laser: Blue Laser.

Filtration: 0.2 μ m post-manufacturing filtered.

Advanced Verification Data

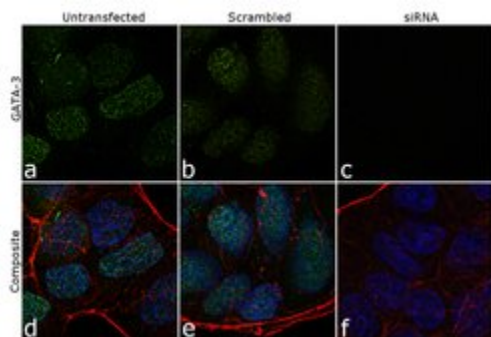


Gata-3 Antibody (53-9966-42)

Antibody specificity was demonstrated by siRNA mediated knockdown of target protein. MCF7 cells were transfected with GATA-3 specific siRNA and loss of signal was observed in Immunofluorescence using GATA-3 Monoclonal Antibody (TWAJ), Alexa Fluor 488, (Product # 53-9966-41). Knockdown validation info.

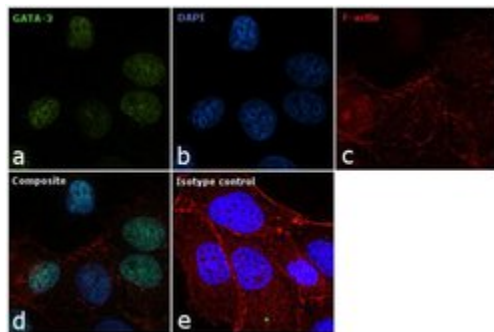
Gata-3 Antibody (53-9966-42) in IF

Knockdown of GATA-3 was achieved by transfecting MCF7 cells with GATA-3 specific siRNAs (Silencer® select Product # s5600; s5599). Immunofluorescence analysis was performed using untransfected MCF7 (panels a, d), transfected with non-specific scrambled siRNA (panels b,e) and transfected with GATA-3 specific siRNAs (panel c,f). The cells were labeled with GATA-3 Monoclonal Antibody (TWAJ), Alexa Fluor 488, (Product # 53-9966-41) at 1:250 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight (Panel a: green). Nuclei (blue) were stained using ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962) and Rhodamine Phalloidin (Product # R415, 1:300) was used for cytoskeletal F-actin (red) staining. Reduction of GATA-3 expression was observed upon siRNA mediated knockdown (panel c,f), confirming the specificity of the antibody to GATA-3. The images were captured at 60X magnification.



Gata-3 Antibody (53-9966-42) in IF

Immunofluorescence analysis of GATA-3 was performed using 70% confluent log phase MCF7 cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with GATA-3 Monoclonal Antibody (TWAJ), Alexa Fluor 488, (Product # 53-9966-41) at 1:250 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing nuclear localization. Panel e represents Isotype control cells to assess background. The images were captured at 60X magnification.



[View more figures on thermofisher.com](http://thermofisher.com)

10 References

Western Blot (1)

World journal of gastroenterology

Mesenchymal stem cells alleviate TNBS-induced colitis by modulating inflammatory and autoimmune responses.

"Published figure using Gata-3 monoclonal antibody (Product # 53-9966-42) in Western Blot"

Authors: Chen QQ, Yan L, Wang CZ, Wang WH, Shi H, Su BB, Zeng QH, Du HT, Wan J

Species
Not Applicable

Dilution
Not Cited

Year
2013

Immunohistochemistry (1)

Nature cell biology

GATA3 suppresses metastasis and modulates the tumour microenvironment by regulating microRNA-29b expression.

"Published figure using Gata-3 monoclonal antibody (Product # 53-9966-42) in Immunohistochemistry"

Authors: Chou J, Lin JH, Brenot A, Kim JW, Provot S, Werb Z

Species
Mouse

Dilution
Not Cited

Year
2013

Flow Cytometry (8)

Nature communications

Attenuation of TCR-induced transcription by Bach2 controls regulatory T cell differentiation and homeostasis.

"Published figure using Gata-3 monoclonal antibody (Product # 53-9966-42) in Flow Cytometry"

Authors: Sidwell T, Liao Y, Garnham AL, Vasanthakumar A, Gloury R, Blume J, Teh PP, Chisanga D, Thelemann C, de Labastida Rivera F, Engwerda CR, Corcoran L, Kometani K, Kurosaki T, Smyth GK, Shi W, Kallies A

Species
Artificial Control

Dilution
Not Cited

Year
2020

Wellcome open research

Characterisation of innate lymphoid cell populations at different sites in mice with defective T cell immunity.

"Published figure using Gata-3 monoclonal antibody (Product # 53-9966-42) in Flow Cytometry"

Authors: Dutton EE, Camelo A, Sleeman M, Herbst R, Carlesso G, Belz GT, Withers DR

Species
Not Applicable

Dilution
Not Cited

Year
2021

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More applications with references on thermofisher.com

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