abcam

ab199428

Anti-GATA3 antibody [EPR16651] - ChIP Grade

Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) is a rabbit monoclonal antibody detecting GATA3 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF, ChIP**. Suitable for **Human, Mouse**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency
- Over 60 publications

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16651
Purification technique	Affinity purification Protein A
Concentration	0.631 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ChIP

Tested

Species	Human
Dilution info	2 µg for 25 µg chromatin
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Target data

See full target information GATA3

Function Transcriptional activator which binds to the enhancer of the T-cell receptor alpha and delta genes. Binds to the consensus sequence 5'-AGATAG-3'. Required for the T-helper 2 (Th2) differentiation process following immune and inflammatory responses. Positively regulates ASB2 expression (By similarity). Coordinates macrophage transcriptional activation and UCP2-dependent metabolic reprogramming in response to IL33. Upon tissue injury, acts downstream of IL33 signaling to drive differentiation of inflammation-resolving alternatively activated macrophages.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in ChIP, Flow Cyt (Intra), ICC/IF, IHC-P, WB in human, mouse samples.

Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) has been cited over 65 times in peer reviewed journals and is trusted by the scientific community.

Abcams high quality manufacturing and validation processes ensure Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

The specificity of Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) has been confirmed by testing in knockout samples.

Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) has 12 independent reviews from customers.

Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) specifically detects GATA3 (UniProt ID: P23771; Molecular weight: 48kDa) and is sold in 100 uL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone EPR16651 - ab21484.

Antibody clone EPR16651 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 555, PE (ab28895, ab28896, ab21672, ab225419).

GATA3 is crucial for T-cell development and differentiation, and its dysregulation is linked to diseases like breast cancer, T-cell lymphomas, and autoimmune disorders.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	GATA3 also known as GATA-binding factor 3 is a transcription factor with a molecular mass of about 50 kDa. It belongs to the GATA family of zinc finger transcription factors. GATA3 is mainly expressed in the immune system especially in T-cells as well as in the nervous system and mammary glands. It plays a role in the regulation of critical developmental processes and cell lineage commitment through its binding to the 'GATA' motif in the promoter regions of target genes.
Biological function summary	GATA3 functions as a regulator of gene expression involved in various differentiation processes. It is not a solitary molecule; it interacts with other proteins to form transcriptional complexes. In T-helper type 2 (Th2) cells GATA3 is necessary for Th2 cell differentiation and cytokine production. Its expression is vital for the development of the nervous system and mammary gland morphogenesis highlighting its role in diverse biological contexts.
Pathways	GATA3 plays a significant role in the Th2 differentiation pathway and is linked to the immune response. It acts in association with other transcription factors like STAT6 and T-bet. GATA3 promotes the transcription of Th2 cytokines such as IL-4 IL-5 and IL-13 while suppressing Th1 responses. This balance orchestrated by GATA3 is important for immune homeostasis and the body's ability to respond to infections and allergens.
Associated diseases and disorders	The dysregulation of GATA3 is associated with atopic diseases and breast cancer. Aberrant expression of GATA3 is often observed in allergic conditions due to its role in Th2 cell differentiation and cytokine expression. In the context of breast cancer GATA3 levels can impact tumor progression and are correlated with estrogen receptor status. Additionally its relation with other breast cancer-related proteins like L50 underlines its importance in cancer biology and potential as a therapeutic target.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

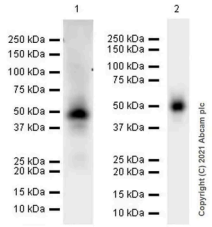
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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11 product images



Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Western blot staining using rabbit Anti-GATA3 antibody

Exposure
Lane1: 26 seconds

Lane 2: 15 seconds

All lanes:
Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) at 1/1000 dilution

Lane 1:
Mouse brain lysate at 20 µg

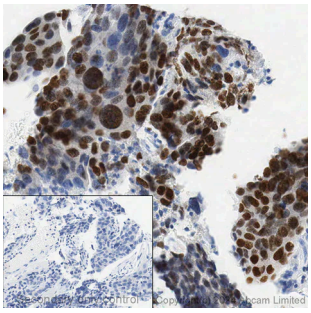
Lane 2:
EL4 (mouse lymphoma T lymphocyte) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 47 kDa

Observed band size: 48 kDa

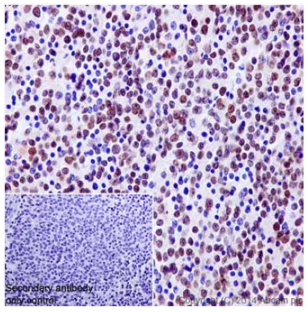


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

Immunohistochemical analysis of formalin fixed paraffin embedded human renal cell carcinoma labelling GATA3 with ab199428 at a concentration of 0.1µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with a OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was performed with DISCOVERY cell conditioning solution (CC1) 100°C, pH8.5 for 32mins.

ab199428 Anti-GATA3 antibody [EPR16651] was incubated for 16mins at 37°C. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.

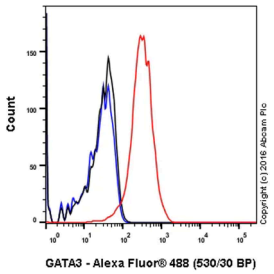
Customers are encouraged to optimise antigen retrieval conditions, antibody concentration, incubation times and temperature for best results in their own IHC assay workflow (automated and manual).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GATA3 antibody

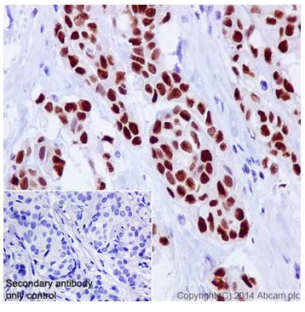
Immunohistochemical analysis of paraffin-embedded Human neuroblastoma tissue labeling GATA3 with ab199428 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Nuclear staining on Human neuroblastoma tissue is observed. Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Flow Cytometry (Intracellular) staining using rabbit Anti-GATA3 antibody

Intracellular Flow Cytometry analysis of Jurkat cells labelling GATA3 with ab199428 at 1/500 (red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. An Alexa Fluorr® 488-conjugated goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.

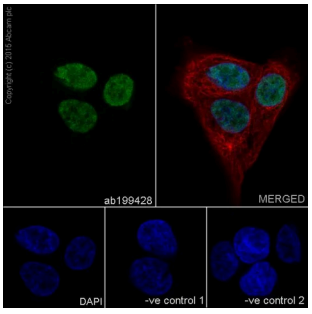


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-GATA3 antibody

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling GATA3 with ab199428 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Nuclear staining on Human breast carcinoma tissue is observed. Counter stained

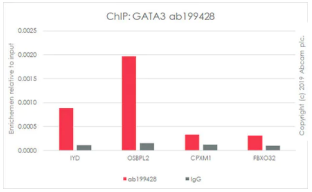
with Hematoxylin.
Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

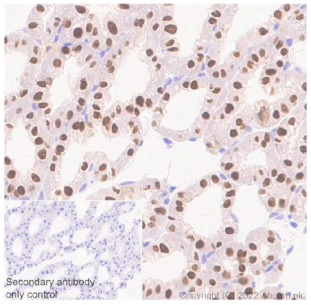
GATA3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GATA3 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized SH-SY5Y cells (Human neuroblastoma from bone marrow cells) labeling GATA3 with ab199428 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Nuclear staining on SH-SY5Y cell line is observed. The nuclear counterstain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (Alexa Fluor® 594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:-
-ve control 1 - ab199428 at 1/250 dilution followed by ab150120 (Alexa Fluor® 594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2. - ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor® 488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



ChIP - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

Chromatin was prepared from MCF7 cells according to the Abcam X-ChIP protocol. Cells were fixed with formaldehyde for 10min. The ChIP was performed with 25µg of chromatin, 2µg of ab199428 (blue), and 20µl of Anti rabbit IgG sepharose beads. 2µg of rabbit normal IgG was added to the IgG control (yellow). The immunoprecipitated DNA was quantified by real time PCR (SYBR approach). Primers and probes are located in the first kb of the transcribed region.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

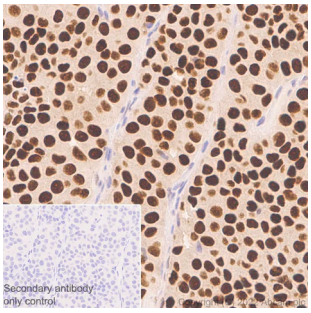
GATA3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse breast using rabbit Anti-GATA3 antibody

Immunohistochemical analysis of paraffin-embedded mouse breast tissue labeling GATA3 with ab199428 at 1/500 dilution.
The section was incubated with ab199428 for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Heat mediated antigen retrieval was performed with Citrate buffer (pH 9.0, Epitope Retrieval Solution 2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

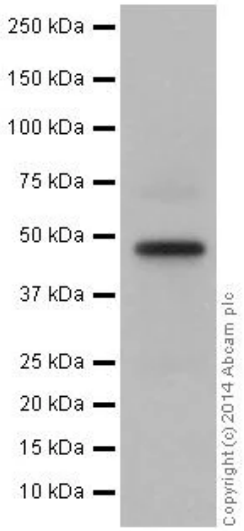
GATA3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse breast cancer using rabbit Anti-GATA3 antibody

Immunohistochemical analysis of paraffin-embedded mouse breast cancer tissue labeling GATA3 with ab199428 at 1/500 dilution.
The section was incubated with ab199428 for 30 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Heat mediated antigen retrieval was performed with Citrate buffer (pH 9.0, Epitope Retrieval Solution 2) for 20 mins.



Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Western blot staining of SH-SY5Y (Human neuroblastoma from bone marrow cells) cell extract using rabbit Anti-GATA3 antibody

Blocking/dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) at 1/1000 dilution

All lanes:
SH-SY5Y (Human neuroblastoma from bone marrow cells) cell extract at 10 µg

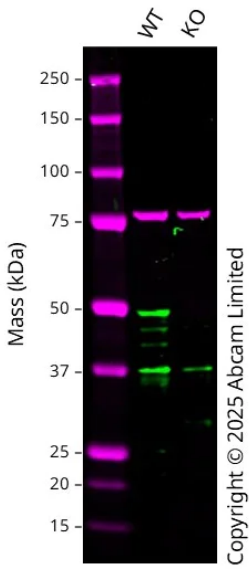
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 47 kDa, 62 kDa

Observed band size: 48 kDa

Exposure time: 1min



Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428)

GATA3 Western blot staining using rabbit Anti-GATA3 antibody

Western blot: Rabbit Monoclonal[EPR16651] to GATA3 ab199428 staining at 1/1000 dilution, shown in green; Mouse anti-CANX (ab238078) loading control staining at 1/20,000 dilution, shown in magenta. A band was observed at 50 kDa in Wild-type A549 cell lysates with no signal observed at this size in GATA3 knockout A549 cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3pc Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-GATA3 antibody [EPR16651] - ChIP Grade (ab199428) at 1/1000 dilution

Lane 1:
Wild-type A549 at 20 µg

Lane 2:
Western blot - Human GATA3 knockout A549 cell line (ab286669) at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 48 kDa

Observed band size: 50 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.