abcam

ab214804

Anti-GATA3 antibody [EPR16651] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR16651
Purification technique	Affinity purification Protein A
Concentration	1.023 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab214804 is the carrier-free version of ab199428.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

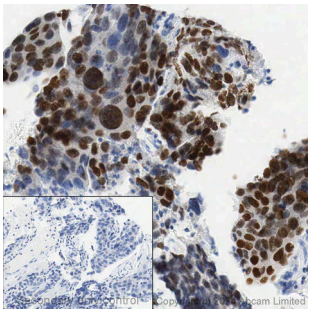
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

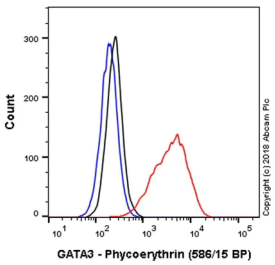
This data was developed using ab199428, the same antibody clone in a different buffer formulation.

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).



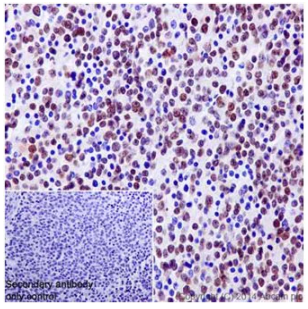
Flow Cytometry (Intracellular) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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

Clone EPR16651 (ab214804) has been successfully conjugated by Abcam. This image was generated using Anti-GATA3 antibody [EPR16651] (PE). Please refer to ab225419 for protocol details.
Overlay histogram showing MCF7 cells stained with ab225419 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab225419, 1/1000 dilution) for 30 min at 22°C.

Isotype control antibody (black line) was Rabbit IgG (monoclonal) Phycoerythrin (ab209478) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50 mW Yellow/Green laser (561nm) and 586/15 bandpass filter.

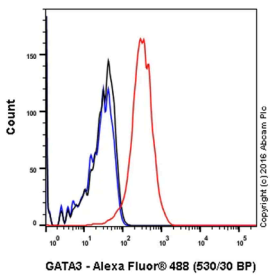


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab199428).

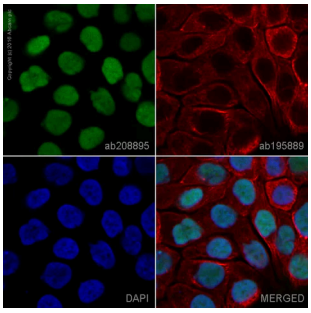
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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 Fluor® 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab199428).



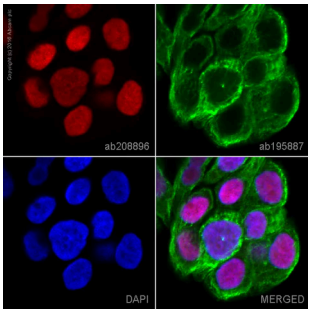
Immunocytochemistry/ Immunofluorescence - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

GATA3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GATA3 antibody

Clone EPR16651 (ab214804) has been successfully conjugated by Abcam. This image was generated using Anti-GATA3 antibody [EPR16651] (Alexa Fluor® 488). Please refer to ab208895 for protocol details.
ab208895 staining GATA3 in T47D cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab208895 at 1/1000 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in T47D cells fixed with 100% methanol (5 min).



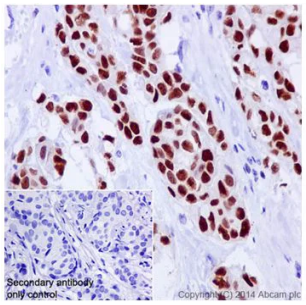
Immunocytochemistry/ Immunofluorescence - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

GATA3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GATA3 antibody

Clone EPR16651 (ab214804) has been successfully conjugated by Abcam. This image was generated using Anti-GATA3 antibody [EPR16651] (Alexa Fluor® 647). Please refer to ab208896 for protocol details.
ab208896 staining GATA3 in T47D cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab208896 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in T47D cells fixed with 100% methanol (5 min).

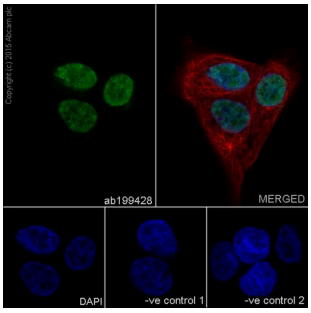


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab199428).

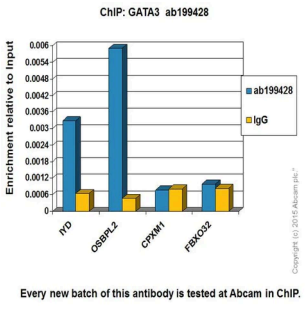
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

GATA3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-GATA3 antibody

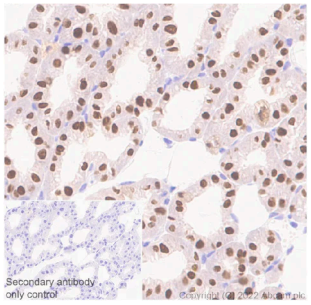
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized SH-SY5Y cells (Human neuroblastoma from bone marrow cells) labeling GATA3 with ab199428 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab199428).



ChIP - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab199428).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA3 antibody [EPR16651] - BSA and Azide free (ab214804)

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

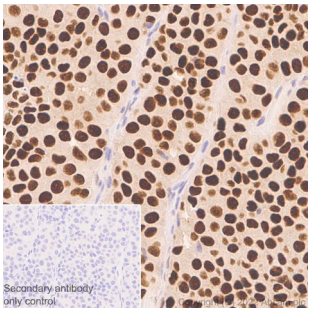
This data was developed using ab199428, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse breast tissue labeling GATA3 with ab199428 at 1/500 dilution.

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] - BSA and Azide free (ab214804)

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

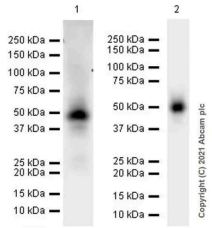
This data was developed using ab199428, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse breast cancer tissue labeling GATA3 with ab199428 at 1/500 dilution.

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] - BSA and Azide free (ab214804)

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

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