abcam

ab307823

Anti-GATA4 antibody [EPR26718-103]

Anti-GATA4 antibody [EPR26718-103] (ab307823) is a rabbit monoclonal antibody detecting GATA4 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 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	EPR26718-103
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

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 Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat

Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Gata4

Function	Transcriptional activator that binds to the consensus sequence 5'-AGATAG-3' and plays a key role in cardiac development (PubMed:33941892, PubMed:35182466). In cooperation with TBX5, it binds to cardiac super-enhancers and promotes cardiomyocyte gene expression, while it down-regulates endocardial and endothelial gene expression (By similarity). Involved in bone morphogenetic protein (BMP)-mediated induction of cardiac-specific gene expression (By similarity). Binds to BMP response element (BMPRE) DNA sequences within cardiac activating regions (By similarity). Acts as a transcriptional activator of ANF in cooperation with NKX2-5 (PubMed:9584153). Promotes cardiac myocyte enlargement (By similarity). Required during testicular development (By similarity). May play a role in sphingolipid signaling by regulating the expression of sphingosine-1-phosphate degrading enzyme, sphingosine-1-phosphate lyase (By similarity).

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

What is this antibody validated in?
Anti-GATA4 antibody [EPR26718-103] (ab307823) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

Other related products
We have a range of other formats of antibody clone [EPR26718-103] also available for your convenience: ab307823, Carrier free - ab307824, PE - ab318394, APC - ab318497, Alexa Fluor® 488 - ab318600, Alexa Fluor® 647 - ab318703, Alexa Fluor® 594 - ab318806, Alexa Fluor® 555 - ab318906, Alexa Fluor® 750 - ab321553

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

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

Activity summary	GATA4 also known as GATA-binding protein 4 is a transcription factor that plays a significant role in gene expression regulation. It weighs approximately 44 kDa. This protein expresses mainly in cells of the heart gonads and liver. GATA4 functions through binding to the GATA sequence on DNA regulating various genes. The protein is well known for its involvement in cardiac development and function.
Biological function summary	GATA4 interacts with other transcription factors and co-factors to regulate developmental processes. It often forms complexes with proteins such as NKX2-5 and TBX5 influencing the expression of cardiac-specific genes. These interactions lead to tissue-specific gene expression control important in the differentiation and functioning of heart cells. GATA4 is also involved in the regulation of genes responsible for cell growth and apoptosis contributing to tissue homeostasis.
Pathways	GATA4 is a notable component of cardiac development and cellular differentiation pathways. It plays an integral role in the Wnt signaling pathway influencing heart development through gene transcription modification. GATA4 also collaborates with proteins such as MEF2 and BMP2 coordinating cardiac muscle differentiation. These pathways highlight its pivotal role in proper cardiovascular formation and function.

Associated diseases and disorders

GATA4 mutations and dysregulation have links to congenital heart defects such as atrial septal defect (ASD). This condition associates with altered gene expression during heart development leading to structural abnormalities. GATA4 also relates to conditions like hypertrophic cardiomyopathy where its interaction with proteins like MYH7 suggests a complex network influencing cardiac hypertrophy. Understanding these connections is essential for developing targeted therapeutic strategies.

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

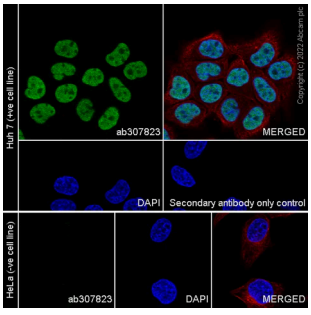
We do not recommend this combination. It is not covered by our product promise.

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.

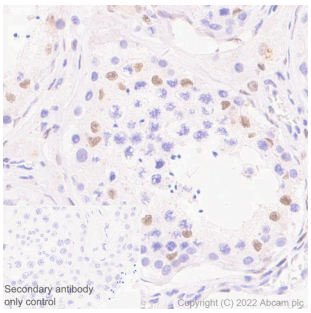
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-GATA4 antibody [EPR26718-103] (ab307823)

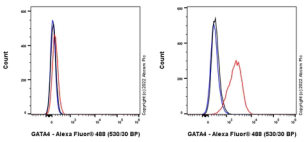
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Huh7 (human hepatocellular carcinoma epithelial cell) cells labelling GATA4 with ab307823 at 1/50 (9.82 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing nuclear staining in Huh7 cell line.Negative control: HeLa (PMID: 24696446).Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary

antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



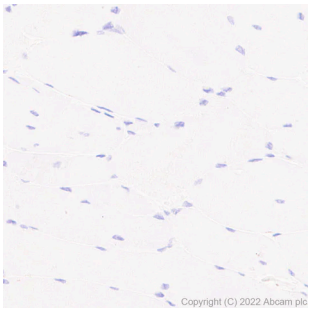
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling GATA4 with ab307823 at 1/500 (0.982 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Positive staining on human testis. The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



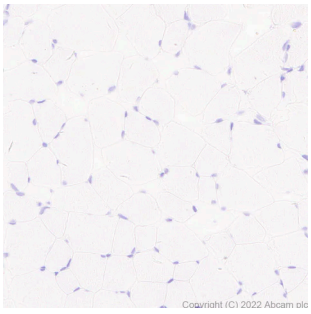
Flow Cytometry (Intracellular) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell, Left) / Huh7(human hepatocellular carcinoma epithelial cell, Right) cells labelling GATA4 with ab307823 at 1/500 dilution (0.1ug) (Red) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.



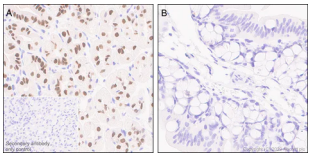
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling GATA4 with ab307823 at 1/500 (0.982 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Negative control: No staining on human skeletal muscle. The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



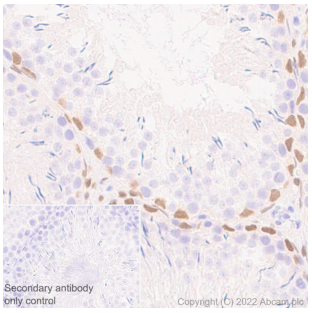
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Rat skeletal muscle tissue labeling GATA4 with ab307823 at 1/4000 (0.123 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Negative control: No staining on rat skeletal muscle. The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



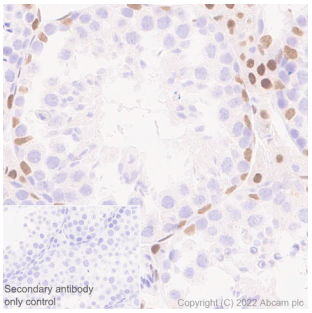
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded (A) Mouse stomach (tissue labeling GATA4 with ab307823 at 1/4000 (0.123 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Positive staining on (A) mouse stomach (PMID: 34111600). No staining on (B) mouse colon (PMID: 18405344). The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



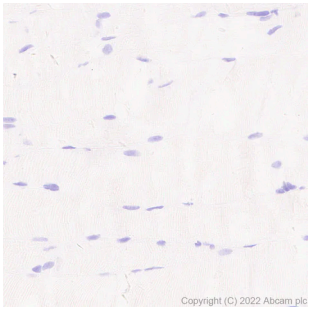
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Rat testis tissue labeling GATA4 with ab307823 at 1/4000 (0.123 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Positive staining on rat testis. The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



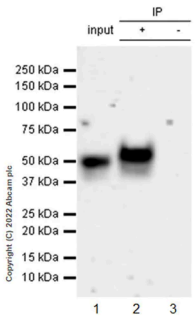
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Mouse testis tissue labeling GATA4 with ab307823 at 1/4000 (0.123 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Positive staining on mouse testis (PMID: 30793514). The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle tissue labeling GATA4 with ab307823 at 1/4000 (0.123 ug/ml) followed by a LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Negative control: No staining on mouse skeletal muscle. The section was incubated with ab307823 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is LeicaDS9800 (Bond™ Polymer Refine Detection) at Ready to use dilution. Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Immunoprecipitation - Anti-GATA4 antibody [EPR26718-103] (ab307823)

GATA4 was immunoprecipitated from 0.35 mg Mouse P7 testis tissue lysate 10 ug with ab307823 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab307823 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: Mouse P7 testis tissue lysate 10 ug
Lane 2: ab307823 IP in Mouse P7 testis tissue lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab307823 in mouse P7 testis tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 81 seconds

All lanes:
Immunoprecipitation - Anti-GATA4 antibody [EPR26718-103] (ab307823) at 1/1000 dilution

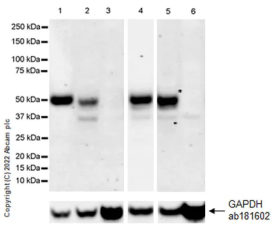
All lanes:
Mouse P7 testis cell

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Observed band size: 56 kDa

Exposure time: 81s



Western blot - Anti-GATA4 antibody [EPR26718-103] (ab307823)

Blocking and diluting buffer and concentration: 5% NFDM/TBST Exposure: Lanes 1-3: 180 seconds; Lane 4: 10 seconds; Lanes 5-6:180 seconds.
All lanes:
Western blot - Anti-GATA4 antibody [EPR26718-103] (ab307823) at 1/1000 dilution

Lane 1:
Mouse testis tissue lysate at 20 µg

Lane 2:
Mouse P7 ovary tissue lysate at 20 µg

Lane 3:
Mouse skeletal muscle tissue lysate at 20 µg

Lane 4:
Rat P7 testis tissue lysate at 20 µg

Lane 5:
Rat P7 ovary tissue lysate at 20 µg

Lane 6:
Rat skeletal muscle tissue lysate at 20 µg

Observed band size: 56 kDa

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