abcam

ab256493

Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade

Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493) is a rabbit monoclonal antibody detecting FOXA2 in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF, ChIP**. 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	EPR22919-71
Purification technique	Affinity purification Protein A
Specificity	This antibody is suitable for mouse and rat for IHC. We do not guarantee WB in mouse or rat samples.
Concentration	0.577 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

ChIP

Tested

Species	Human
Dilution info	5 µg for 25 µg chromatin
Notes	-

Expected

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

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/1000

Notes	Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/1000
Notes	Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/1000
Notes	Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information FOXA2

Function	Transcription factor that is involved in embryonic development, establishment of tissue-specific gene expression and regulation of gene expression in differentiated tissues. Is thought to act as a 'pioneer' factor opening the compacted chromatin for other proteins through interactions with nucleosomal core histones and thereby replacing linker histones at target enhancer and/or promoter sites. Binds DNA with the consensus sequence 5'-[AC]A[AT]T[AG]TT[GT][AG][CT]T[CT]-3' (By similarity). In embryonic development is required for notochord formation. Involved in the development of multiple endoderm-derived organ systems such as the liver, pancreas and lungs; FOXA1 and FOXA2 seem to have at least in part redundant roles. Originally described as a transcription activator for a number of liver genes such as AFP, albumin, tyrosine aminotransferase, PEPCK, etc. Interacts with the cis-acting regulatory regions of these genes. Involved in glucose homeostasis; regulates the expression of genes important for glucose sensing in pancreatic beta-cells and glucose homeostasis. Involved in regulation of fat metabolism. Binds to fibrinogen beta promoter and is involved in IL6-induced fibrinogen beta transcriptional activation.

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-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493) 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), ChIP in Human, Mouse, Rat samples.

What is the molecular weight of FOXA2?
Anti-FOXA2 [EPR22919-71] - ChIP Grade (ab256493) specifically detects a band for FOXA2 (UniProt: Q9Y261) at a molecular weight of 48kDa.

Other related products
We have a range of other formats of antibody clone [EPR22919-71] also available for your convenience: ab256493, Carrier free - ab259272, Carrier free - ab285062

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	FOXA2 also known as HNF3B is a transcription factor that plays a significant role in gene regulation. This protein has a mass of approximately 47 kDa and is expressed in various tissues including the liver pancreas and lung. Researchers detect FOXA2 using techniques like ELISA for protein quantification. Its function involves regulating the expression of genes critical for development and metabolism.
Biological function summary	FOXA2 influences important processes in embryonic development and organogenesis. It does not typically act as part of a larger complex but independently binds to DNA enabling the transcription of target genes. FOXA2 affects liver function by regulating genes involved in glucose and lipid metabolism and it also plays a part in the differentiation of cells in development stages.
Pathways	FOXA2 operates within pathways like the insulin signaling pathway and the Wnt signaling pathway. It collaborates with other transcription factors like FOXA1 and FOXA3 to maintain metabolic homeostasis. In the Wnt pathway FOXA2 impacts cell fate decisions essential for embryonic patterning and development.
Associated diseases and disorders	Alterations in FOXA2 expression have connections to conditions such as diabetes and liver diseases. Changes in FOXA2 expression could disrupt liver metabolism leading to metabolic disorders. Moreover FOXA2 ties to the regulation of other proteins like PDX1 in the context of diabetes where it plays a role in insulin biosynthesis and pancreatic cell function.

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

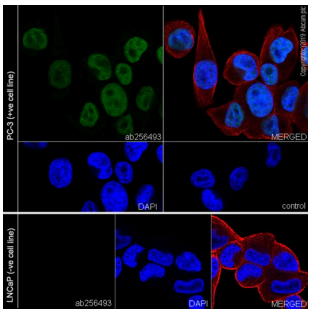
We do not recommend this combination. It is not covered by our product promise.

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.

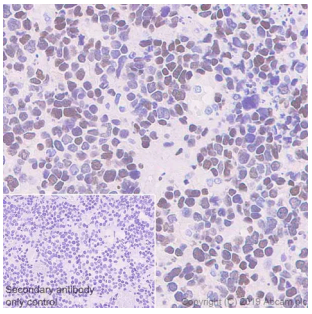
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FOXA2 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized PC-3 (human prostate adenocarcinoma epithelial cell) cells labelling FOXA2 with ab256493 at 1/100 (5.8 ug/ml) dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 (2 ug/ml) dilution (Green). Confocal image showing nuclear staining in PC-3 cell line. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab256493 anti- FOXA2 ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 ug/ml) dilution.

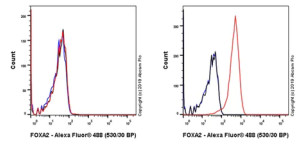


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FOXA2 antibody

Immunohistochemical analysis of paraffin-embedded Human prostate neuroendocrine carcinoma tissue labeling FOXA2 with ab256493 at 1/1000 dilution (0.58ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in human prostate neuroendocrine carcinoma (PMID:18156212;28621319). Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

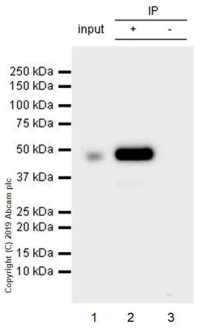
Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Flow Cytometry (Intracellular) - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Flow Cytometry (Intracellular) staining using rabbit Anti-FOXA2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized LNCaP (Human prostate carcinoma epithelial cell, Left) / PC-3 (Human prostate adenocarcinoma epithelial cell, Right) cells labelling FOXA2 with ab256493 at 1/600 (Red) compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
Negative control: LNCaP (28621319, 16001449).



Immunoprecipitation - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 was immunoprecipitated from 0.35 mg PC-3 (Human prostate adenocarcinoma epithelial cell) whole cell lysate 10ug with ab256493 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab256493 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: PC-3 (Human prostate adenocarcinoma epithelial cell) whole cell lysate 10ug

Lane 2: ab256493 IP in PC-3 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab256493 in PC-3 whole cell lysate

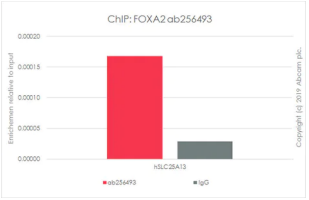
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 15 seconds.

All lanes:
Immunoprecipitation - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

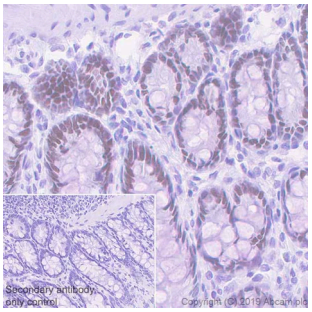
Predicted band size: 48 kDa

Observed band size: 48 kDa



ChIP - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

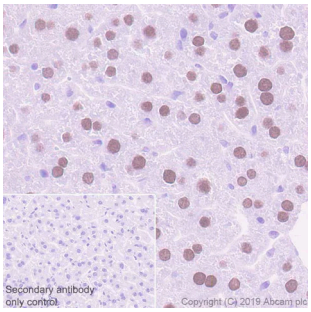
Chromatin was prepared from HepG2 cells according to the Abcam Dual-X-ChIP protocol. Cells were fixed with 1.5 mM EGS for 30mins and then formaldehyde for 10min.
The ChIP was performed with 25 µg of chromatin, 5 µg of ab256493 (red), or 5 µg of rabbit normal IgG ab172730 (gray) and 20 µl of Protein A/G Sepharose beads. The immunoprecipitated DNA was quantified by real time PCR (Taqman approach for active and inactive loci, Sybr green approach for heterochromatic loci).
Primers and probes are from paper PMCID: PMC6515469.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

Immunohistochemical analysis of paraffin-embedded Rat colon tissue labeling FOXA2 with ab256493 at 1/1000 dilution (0.58ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in rat colon (PMID:15567715). Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

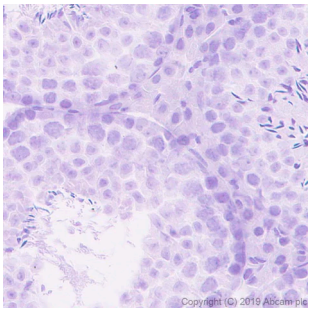


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FOXA2 antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling FOXA2 with ab256493 at 1/1000 dilution (0.58ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Nuclear staining in mouse liver (PMID: 15567715). Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).

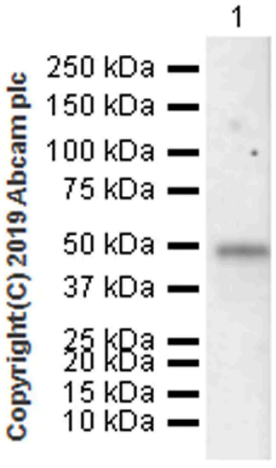


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-FOXA2 antibody

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling FOXA2 with ab256493 at 1/1000 dilution (0.58ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Negative control: No staining in mouse testis (PMID:15567715). Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).

Heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).



Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Western blot staining of SW480 (human colorectal adenocarcinoma epithelial cell), whole cell lysate using rabbit Anti-FOXA2 antibody

Blocking and Dilution Buffer and concentration: 5% NFDM/TBST.
The molecular weight observed is consistent with what has been described in the literature (PMID:16001449)

This blot was developed using a higher sensitivity ECL substrate for 3 minutes.

All lanes:
Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493) at 1/1000 dilution

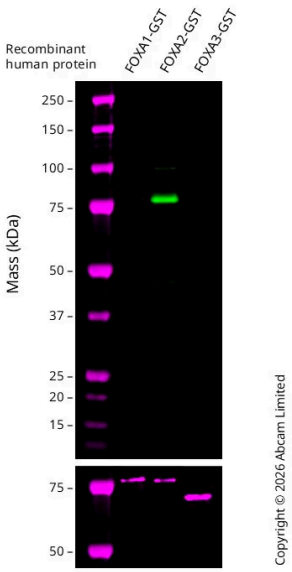
All lanes:
SW480 (human colorectal adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

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

Predicted band size: 48 kDa

Observed band size: 48 kDa



Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Western blot staining using rabbit Anti-FOXA2 antibody

Western blot: Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade ab256493 staining at 1/1000 dilution, shown in green; anti-GST antibody [3G10/1B3] ab92 staining at 1 g/mL, shown in magenta. A band was observed at 78 kDa. 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 and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493) at 1/1000 dilution

Lane 1:
FOXA1 Recombinant Protein (GST Tag) at 0.1 µg

Lane 2:
FOXA2 Recombinant Protein (GST Tag) at 0.1 µg

Lane 3:
FOXA3 Recombinant Protein (GST Tag) at 0.1 µg

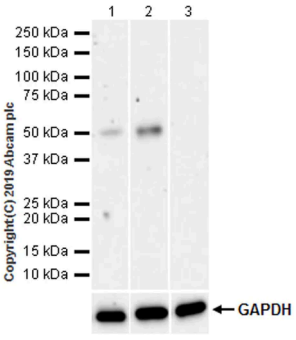
Secondary

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

Performed under reducing conditions.

Predicted band size: 78 kDa

Observed band size: 78 kDa



Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493)

FOXA2 Western blot staining using rabbit Anti-FOXA2 antibody

Blocking and Dilution Buffer and concentration: 5% NFDM/TBST.
Negative control: LNCaP (PMID:28621319,16001449).

The expression profile is consistent with what has been described in the literature (PMID: 28621319, 16001449)

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-FOXA2 antibody [EPR22919-71] - ChIP Grade (ab256493) at 1/1000 dilution

Lane 1:
Human colon cancer tissue lysate at 20 µg

Lane 2:

PC-3 (human prostate adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
LNCaP (human prostate carcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

Lane 1:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Lanes 2 - 3:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 48 kDa

Observed band size: 48 kDa

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