abcam

ab60721

Anti-FOXA2 antibody [7E6] - BSA and Azide free

Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721) is a mouse monoclonal antibody provided in a PBS only buffer for easy conjugation detecting FOXA2 in **Western Blot, Flow Cytometry, IP, ICC/IF**. Suitable for **Human**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Over 20 publications
- Trusted since 2007

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human FOXA2 aa 350 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q9Y261
Carrier free	Yes
Clone number	7E6
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from cell culture supernatant.

Reactivity data

IP

Tested

Species	Transfected cell lysate
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Mouse, Rat, Cow, Dog, Rhesus monkey
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat, Cow, Dog, Rhesus monkey
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Cow, Dog, Rhesus monkey
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat, Cow, Dog, Rhesus monkey
Dilution info	-

Notes	-

Not recommended

Species	Transfected cell lysate
Dilution info	-
Notes	-

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	Blue Ice
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 [7E6] - BSA and Azide free (ab60721) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of FOXA2?
Anti-FOXA2 [7E6] - BSA and Azide free (ab60721) specifically detects a band for FOXA2 (UniProt: Q9Y261) at a molecular weight of 48kDa.

Trusted by the scientific community
Anti-FOXA2 [7E6] - BSA and Azide free (ab60721) was first used in a scientific publication in 2007 and has been cited over 20 times in peer-reviewed journals.

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.

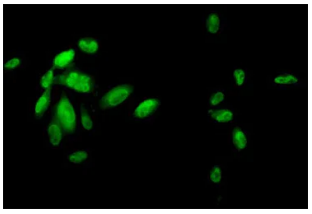
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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5 product images

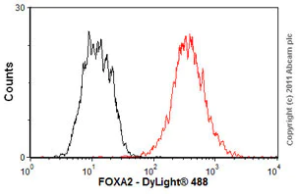


Immunocytochemistry/ Immunofluorescence - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721)

FOXA2 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-FOXA2 antibody

ab60721 at 10 ug/ml staining FOXA2 in human Hella cells by Immunocytochemistry/ Immunofluorescence.

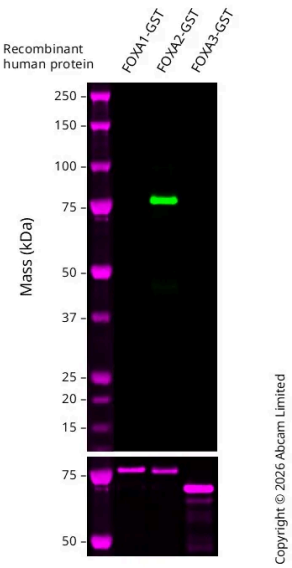
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Flow Cytometry - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721)

FOXA2 Flow Cytometry staining using mouse Anti-FOXA2 antibody

Overlay histogram showing HepG2 cells stained with ab60721 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab60721, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This image was generated using the ascites version of the product.



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Western blot - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721)

FOXA2 Western blot staining using mouse Anti-FOXA2 antibody

Western blot: Anti-FOXA2 antibody [7E6]-BSA and Azide free ab60721 staining at 1 g/mL, shown in green; anti-GST antibody [EPR4236] ab111947 staining at 1/200 dilution, 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-Mouse 800CW and Goat anti-Rabbit 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721) at 1 µg/mL

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

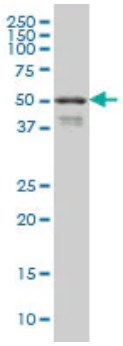
Secondary

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

Performed under reducing conditions.

Predicted band size: 78 kDa

Observed band size: 78 kDa



Western blot - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721)

FOXA2 Western blot staining of HepG2 cell lysate using mouse Anti-FOXA2 antibody

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721) at 1 µg/mL

All lanes:
HepG2 cell lysate at 25 µg

Predicted band size: 48 kDa

Observed band size: 40 kDa, 42 kDa, 50 kDa

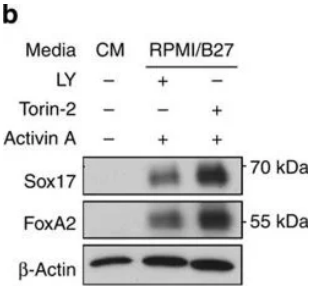


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Western blot - Anti-FOXA2 antibody [7E6] - BSA and Azide free (ab60721)

FOXA2 Western blot staining using mouse Anti-FOXA2 antibody

Western Blotting using Anti-FOXA2 antibody [7E6] - BSA and Azide free, ab60721. Publication image from Cui, W. et al., 2015, Nat Commun, 25998442. Legend direct from paper.

Inhibition of mTOR enhances DE differentiation of hESCs.(a) qRT–PCR showing gene expression in hESCs treated with Activin A±Torin for 2 days. Data represent mean±s.d. of six measurements from two independent experiments. (b) Immunoblot showing protein expression in hESCs treated as in a. (c) Phase-contrast images of hESCs treated for 3 days with Activin A together with either LY or Torin. Scale bar, 100 μm. (d) Phase-contrast images of the cells from c that were further differentiated by a hepatic differentiation protocol as shown in Fig. 1. Days of differentiation are indicated. Scale bar, 50 μm.

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