abcam

Product datasheet

Anti-FOXA1 antibody [1B1] ab55178

KO VALIDATED

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Overview

Product name	Anti-FOXA1 antibody [1B1]
Description	Mouse monoclonal [1B1] to FOXA1
Host species	Mouse
Tested applications	**Suitable for:** WB, IHC-P, ICC/IF, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant fragment corresponding to Human FOXA1 aa 367-472. Database link: **P55317**
Positive control	WB: HepG2 and HeLa cell lysates.
General notes	This product was changed from ascites to tissue culture supernatant on 24/1/19. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.40 Constituent: PBS
Purity	Protein A purified
Purification notes	Purified from TCS.
Clonality	Monoclonal

Clone number	1B1
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab55178 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 49 kDa.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval via the microwave method before commencing with IHC staining protocol.
ICC/IF	★★★★☆ (1)	Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. **ab170191** - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target

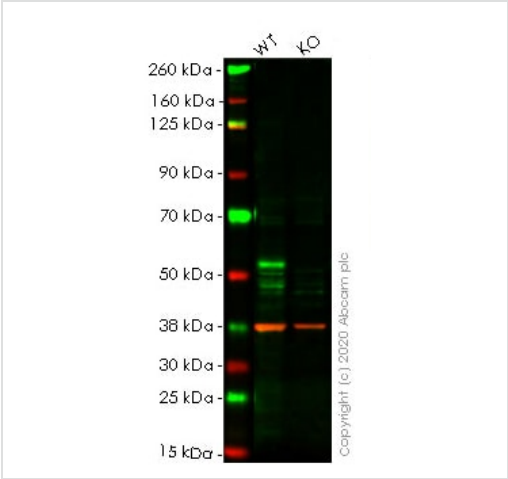
Function Transcription factor that is involved in embryonic development, establishment of tissue-specific gene expression and regulation of gene expression in differentiated tissues. Is thought to act as a 'pioneer' factor opening the compacted chromatin for other proteins through interactions with nucleosomal 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). Proposed to play a role in translating the epigenetic signatures into cell type-specific enhancer-driven transcriptional programs. Its differential recruitment to chromatin is dependent on distribution of histone H3 methylated at 'Lys-5' (H3K4me2) in estrogen-regulated genes. Involved in the development of multiple endoderm-derived organ systems such as liver, pancreas, lung and prostate; FOXA1 and FOXA2 seem to have at least in part redundant roles (By similarity). Modulates the transcriptional activity of nuclear hormone receptors. Is involved in ESR1-mediated transcription; required for ESR1 binding to the NKX2-1 promoter in breast cancer cells; binds to the RPRM promter and is required for the estrogen-induced repression of RPRM. Involved in regulation of apoptosis by inhibiting the expression of BCL2. Involved in cell cycle regulation by activating expression of CDKN1B, alone or in conjunction with BRCA1. Originally discribed 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.

Tissue specificity Highly expressed in prostate and ESR1-positive breast tumors. Overexpressed in esophageal and lung adenocarcinomas.

Sequence similarities Contains 1 fork-head DNA-binding domain.

Cellular localization Nucleus.

Images



Western blot - Anti-FOXA1 antibody [1B1] (ab55178)

All lanes : Anti-FOXA1 antibody [1B1] (ab55178) at 1/500 dilution

Lane 1 : Wild-type HeLa cell lysate
Lane 2 : FOXA1 knockout HeLa cell lysate

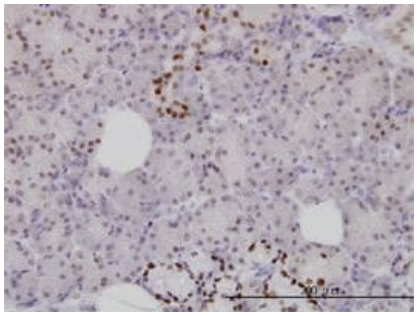
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 49 kDa
Observed band size: 49 kDa

Lanes 1- 2: Merged signal (red and green). Green - ab55178 observed at 49 kDa. Red - Anti-GAPDH antibody[EPR16891] - Loading Control (**ab181602**) observed at 37 kDa.

ab55178 was shown to react with FOXA1 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line **ab261823** (knockout cell lysate **ab256920**) was used. Wild-type HeLa and FOXA1 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab55178 and Anti-GAPDH antibody[EPR16891] - Loading Control (**ab181602**) overnight at 4°C at a 1 in 500 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye®800CW) preadsorbed (**ab216772**) and Goat Anti-Rabbit IgG H&L (IRDye®680RD) preadsorbed (**ab216777**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXA1 antibody [1B1] (ab55178)

FOXA1 antibody (ab55178) used in immunohistochemistry at 3ug/ml on formalin fixed and paraffin embedded human salivary gland.

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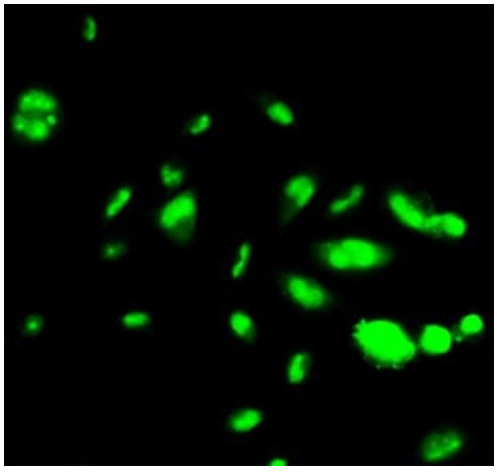

Immunocytochemistry/ Immunofluorescence - Anti-FOXA1 antibody [1B1] (ab55178)

ab55178 at 10 ug/ml staining FOXA1 in human HepG2 cells by Immunocytochemistry/ Immunofluorescence.

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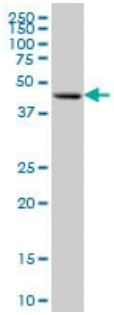

Western blot - Anti-FOXA1 antibody [1B1] (ab55178)

FOXA1 antibody (ab55178) at 1ug/lane + HepG2 cell lysate at 25ug/lane.

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Flow Cytometry - Anti-FOXA1 antibody [1B1] (ab55178)

Overlay histogram showing HepG2 cells stained with ab55178 (red line). The cells were fixed with 4 % paraformaldehyde (10 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. The cells were then incubated with the antibody (ab55178, 1µg/1x10^6 cells) for 30 min at 22ºC. The secondary antibody used was DyLight®

488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. 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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