abcam

ab41898

Anti-HNF-4-alpha antibody [K9218]

Anti-HNF-4-alpha antibody [K9218] (ab41898) is a mouse monoclonal antibody detecting HNF-4-alpha in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human, Rat**.

- Over 110 publications
- Trusted since 2006

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7 Preservative: 0.1% Sodium azide
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human HNF4A aa 1-100. The exact immunogen used to generate this antibody is proprietary information. Database link P41235
Clone number	K9218
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

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

Expected

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

Predicted

Species	Pig
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

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

Predicted

Species	Pig
Dilution info	-

Notes	-

IHC-P

Tested

Species	Rat
Dilution info	1/50 - 1/200
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/50 - 1/200
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Pig
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Expected

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

Predicted

Species	Pig
Dilution info	-
Notes	-

Target data

See full target information HNF4A

Function	Transcriptional regulator which controls the expression of hepatic genes during the transition of endodermal cells to hepatic progenitor cells, facilitating the recruitment of RNA pol II to the promoters of target genes (PubMed:30597922). Activates the transcription of CYP2C38 (By similarity). Represses the CLOCK-BMAL1 transcriptional activity and is essential for circadian rhythm maintenance and period regulation in the liver and colon cells (PubMed:30530698).

Storage

Shipped at conditions	Blue Ice
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

Product Specifications

Anti-HNF-4-alpha antibody [K9218] (ab41898) is a mouse monoclonal antibody and is validated for use in Flow Cyt, ICC/IF, IHC-P, WB in human, rat samples.
Anti-HNF-4-alpha antibody [K9218] (ab41898) specifically detects HNF-4-alpha (UniProt ID: P41235; Molecular weight: 53kDa) and is sold in 100 µL selling sizes.

Quality and Validation

Abcam's high quality validation processes ensure Anti-HNF-4-alpha antibody [K9218] (ab41898) has high sensitivity and specificity.

Anti-HNF-4-alpha antibody [K9218] (ab41898) has been cited over 110 times in peer reviewed journals and is trusted by the scientific community.
Anti-HNF-4-alpha antibody [K9218] (ab41898) has 8 independent reviews from customers.

This product was changed from ascites to tissue culture supernatant on 3rd April 2019. 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.

Supplementary info

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

Activity summary	HNF-4-alpha also known as hepatocyte nuclear factor 4-alpha (HNF4A) is a nuclear protein that functions as a transcription factor. It plays an important role in regulating gene expression in the liver kidney and intestine. HNF-4-alpha has a molecular mass of about 54 kDa and is expressed in tissues where it maintains cellular differentiation and metabolic homeostasis. In cellular assays such as ELISA and CHIP detection of HNF-4-alpha provides insights into its expression levels and activity in various biological contexts.
Biological function summary	HNF-4-alpha influences the expression of genes involved in liver and pancreatic function. It acts as a transcriptional regulator that controls fatty acid oxidation gluconeogenesis and insulin secretion. HNF-4-alpha interacts with other proteins to form transcriptional complexes that fine-tune the expression of metabolic enzymes and transport proteins. This protein is key to ensuring that metabolic genes are expressed in a coordinated manner which is essential for maintaining normal metabolic processes.
Pathways	HNF-4-alpha participates in the insulin signaling and lipid metabolism pathways. Through these pathways it interacts with other transcription factors such as HNF-1-alpha and PPAR-alpha which coordinate the regulation of genes involved in glucose metabolism and fatty acid oxidation. HNF-4-alpha plays a critical role by modulating the expression of enzymes like gluconeogenic enzymes in response to metabolic needs which connects it to key metabolic pathways influencing overall energy homeostasis.
Associated diseases and disorders	HNF-4-alpha is linked to maturity-onset diabetes of the young (MODY1) and certain types of liver diseases. Mutations or dysregulation in HNF-4-alpha can affect the expression of genes essential for insulin production and glucose metabolism leading to disorders like diabetes. Additionally HNF-4-alpha interacts with other proteins and transcription factors implicated in these conditions such as HNF-1-alpha. Understanding the role of HNF-4-alpha in these diseases can provide insights into potential therapeutic targets and intervention 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.

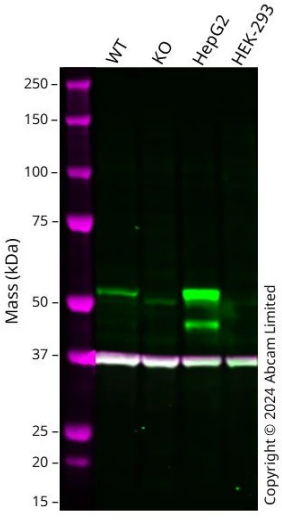
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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6 product images



Western blot - Anti-HNF-4-alpha antibody [K9218] (ab41898)

HNF-4-alpha Western blot staining using mouse Anti-HNF-4-alpha antibody

Western blot: Anti-HNF4A antibody [K9218] (ab41898) staining at 1/1000 dilution, shown in green; Rabbit Anti-GAPDH antibody [EPR16891] (ab181602) loading control staining at 1/20000 dilution, shown in magenta. In Western blot, ab41898 was shown to bind specifically to HNF4A. A band was observed at 50-55 kDa in wild-type A549 cell lysates with no signal observed at this size in HNF4A knockout cell line. To generate this image, wild-type and HNF4A knockout A549 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % 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 IgG H&L 800CW and Goat anti-Rabbit IgG H&L 680RD at 1/20000 dilution.
All lanes:
Western blot - Anti-HNF-4-alpha antibody [K9218] (ab41898) at 1/1000 dilution

Lane 1:
Wild-type A549 cell lysate at 20 µg

Lane 2:
HNF4A knockout A549 cell lysate at 20 µg

Lane 3:
HepG2 cell lysate at 20 µg

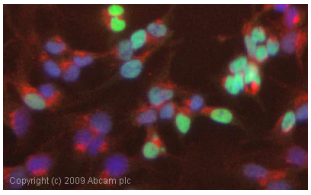
Lane 4:
HEK-293 cell lysate at 20 µg

Secondary

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

Performed under reducing conditions.

Observed band size: 50 kDa, 55 kDa

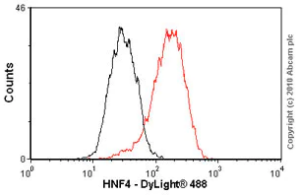


Immunocytochemistry/ Immunofluorescence - Anti-HNF-4-alpha antibody [K9218] (ab41898)

HNF-4-alpha Immunocytochemistry/ Immunofluorescence staining using mouse Anti-HNF-4-alpha antibody

ICC/IF image of ab41898 stained HepG2 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab41898, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) (ab150113) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

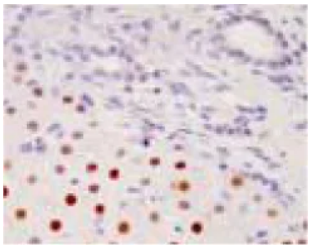
This image was generated using the ascites version of the product.



Flow Cytometry - Anti-HNF-4-alpha antibody [K9218] (ab41898)

HNF-4-alpha Flow Cytometry staining using mouse Anti-HNF-4-alpha antibody

Overlay histogram showing HepG2 cells stained with ab41898 (red line). The cells were fixed with 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 (ab7481) / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab41898, 2µg/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, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a significantly decreased signal in HepG2 cells fixed with 4% paraformaldehyde/permeabilized in 0.1% PBS-Tween used under the same conditions.
This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HNF-4-alpha antibody [K9218] (ab41898)

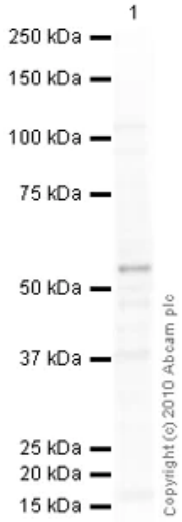
ab41898 staining HNF-4-alpha in human liver hepatocytes (10-20 ug/mL) by Immunohistochemistry, formalin-fixed paraffin embedded sections.
This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HNF-4-alpha antibody [K9218] (ab41898)

HNF-4-alpha Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-HNF-4-alpha antibody

ab41898 staining HNF-4-alpha in Rat Intestine epithelial cell(10-20 ug/mL) by Immunohistochemistry, formalin-fixed paraffin embedded sections.
This image was generated using the ascites version of the product.



Western blot - Anti-HNF-4-alpha antibody [K9218] (ab41898)

HNF-4-alpha Western blot staining of HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate using mouse Anti-HNF-4-alpha antibody

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-HNF-4-alpha antibody [K9218] (ab41898) at 1 µg/mL

All lanes:
HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Mouse IgG H&L (HRP) preadsorbed (ab97040) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 53 kDa

Observed band size: 108 kDa, 37 kDa, 53 kDa

Exposure time: 4min

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