abcam

ab128908

Anti-FOXO4/AFX antibody [EPR5442]

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	EPR5442
Purification technique	Affinity purification Protein A
Dissociation constant	3×10^{-11} M
Concentration	1.956 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information FOXO4

Function	Transcription factor involved in the regulation of the insulin signaling pathway. Binds to insulin-response elements (IREs) and can activate transcription of IGFBP1. Down-regulates expression of HIF1A and suppresses hypoxia-induced transcriptional activation of HIF1A-modulated genes. Also involved in negative regulation of the cell cycle. Involved in increased proteasome activity in embryonic stem cells (ESCs) by activating expression of PSMD11 in ESCs, leading to enhanced assembly of the 26S proteasome, followed by higher proteasome activity.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

This antibody was developed as part of a collaboration between the University of Utrecht in the Netherlands and the lab of Tobias Dansen.

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.

Supplementary info

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

Activity summary	FOXO4 also known as AFX is part of the FoxO family of transcription factors and weighs about 74 kDa. It operates as an important player in transcriptional regulation by binding to specific DNA sequences. This protein modulates gene expression linked to apoptosis cell cycle regulation and oxidative stress resistance. FOXO4 commonly expresses in tissues like the liver skeletal muscle and adipose tissue where it carries out critical cellular functions.
Biological function summary	This protein influences processes essential for cell survival and metabolism. FOXO4 forms part of the larger forkhead box family of transcription factors. Inside cells it regulates genes involved in mechanisms such as gluconeogenesis and immune responses. It can also interact with other proteins like 14-3-3 which helps control its nuclear-cytoplasmic shuttling impacting its activity.
Pathways	FOXO4 becomes an integral part of the insulin signaling and oxidative stress response pathways. In the insulin pathway FOXO4 activity suppresses in response to insulin signals that trigger the PI3K/Akt pathway. Akt phosphorylates FOXO4 disallowing it from entering the nucleus. FOXO4 relates closely with FOXO1 and FOXO3 within these pathways where their coordinated activities help maintain energy homeostasis and cellular stress responses.
Associated diseases and disorders	FOXO4 involvement becomes apparent in conditions such as diabetes and cancer. In diabetes disrupted insulin signaling impacts FOXO4 activity impairing glucose metabolism. In cancer FOXO4's role in cell cycle arrest and apoptosis associates it with tumor suppression and progression. Its interaction with proteins like p53 influences cellular responses to oncogenic stress marking FOXO4 as a significant factor in oncological research.

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

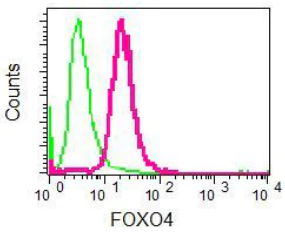
We do not recommend this combination. It is not covered by our product promise.

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.

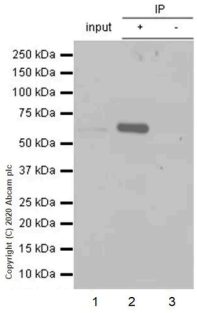
6 product images



Flow Cytometry (Intracellular) - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

FOXO4/AFX Flow Cytometry (Intracellular) staining using rabbit Anti-FOXO4/AFX antibody

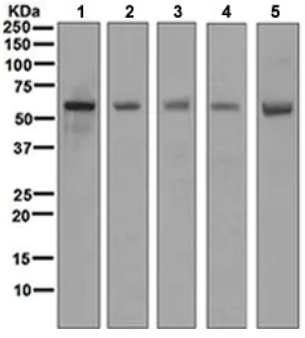
Intracellular flow cytometric analysis of FOXO4/AFX in permeabilized HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) cells using ab128908 at 1/100 dilution (Red) compared to a non-specific negative control antibody (green).



Immunoprecipitation - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

Purified ab128908 at 1/100 dilution (2µg) immunoprecipitating FOXO4/AFX in 293T whole cell lysate.
Lane 1 (input): 293T (Human embryonic kidney epithelial cell) whole cell lysate 10µg
Lane 2 (+): ab128908 + 293T whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab128908 in 293T whole cell lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 65 kDa
All lanes:
Immunoprecipitation - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

Predicted band size: 53 kDa



Western blot - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

All lanes:
Western blot - Anti-FOXO4/AFX antibody [EPR5442] (ab128908) at 1/1000 dilution

Lane 1:
293T lysate at 10 µg

Lane 2:
Fetal heart lysate at 10 µg

Lane 3:
Fetal muscle lysate at 10 µg

Lane 4:
Fetal lung lysate at 10 µg

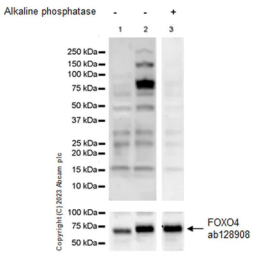
Lane 5:
HuT-78 lysate at 10 µg

Secondary

All lanes:
Goat-anti-rabbit HRP at 1/2000 dilution

Predicted band size: 53 kDa

Observed band size: 65 kDa



Western blot - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

Blocking and diluting buffer and concentration: 5% NFDM/TBST The bands above 100 kDa are unknown. In Western blot, anti-FOXO4 antibody (ab128908) staining at 1/1000 dilution. Exposure time: 59 seconds.
All lanes:
Western blot - Anti-FOXO1A (pT24)+FOXO3A (pT32)+FOXO4 (pT28)+FOXO6 (pT26) antibody [EPR28359-78] (ab312326) at 1/1000 dilution

Lane 1:
Jurkat (human t cell leukemia t lymphocyte from peripheral blood) starved overnight, then treated with 50 uM LY294092 for 30min whole cell lysate (untreated membrane) at 20 µg

Lane 2:
Jurkat starved overnight, then treated with 20% serum and 100nM Calycin A for 30min whole cell lysate (untreated membrane) at 20 µg

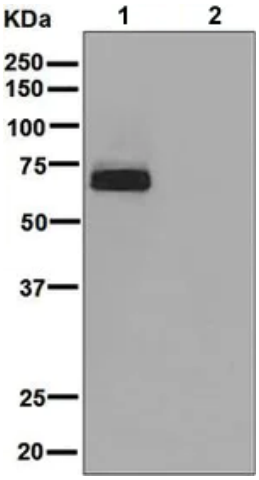
Lane 3:
Jurkat starved overnight, then treated with 20% serum and 100nM Calycin A for 30min whole cell lysate (phosphatase treated membrane) at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 75-80 kDa

Exposure time: 59s



Western blot - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

All lanes:
Western blot - Anti-FOXO4/AFX antibody [EPR5442] (ab128908) at 1/1000 dilution

Lane 1:
293T transfected with FOXO4/AFX

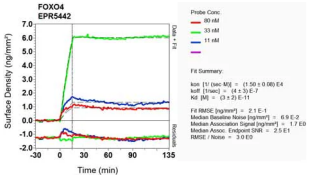
Lane 2:
293T cell lysate

Secondary

All lanes:
Goat-anti-rabbit HRP at 1/2000 dilution

Predicted band size: 53 kDa

Observed band size: 63 kDa



OI-RD Scanning - Anti-FOXO4/AFX antibody [EPR5442] (ab128908)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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