abcam

Product datasheet

Anti-FOXO1A antibody ab70382

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Overview

Product name	Anti-FOXO1A antibody
Description	Rabbit polyclonal to FOXO1A
Host species	Rabbit
Tested applications	**Suitable for:** WB, IP
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat, Cow, Pig
Immunogen	Synthetic peptide within Human FOXO1A aa 300 to the C-terminus (C terminal). The exact immunogen sequence used to generate this antibody is proprietary information. If additional detail on the immunogen is needed to determine the suitability of the antibody for your needs, please **contact** our Scientific Support team to discuss your requirements. Database link: **Q12778**
Positive control	WB: HepG2, HEK-293T and RKO whole cell lysate. IP: HepG2 whole cell lysate.
General notes	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. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.09% Sodium azide Constituents: 1.815% Tris, 1.764% Sodium citrate, 0.021% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab70382 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	★★★★☆ **(3)**	1/2000 - 1/10000. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).
IP	★★★★☆ **(1)**	Use at 2-10 µg/mg of lysate.

Target

Function Transcription factor which acts as a regulator of cell responses to oxidative stress. In the presence of KIRT1, mediates down-regulation of cyclin D1 and up-regulation of CDKN1B levels which are required for cell transition from proliferative growth to quiescence.

Tissue specificity Ubiquitous.

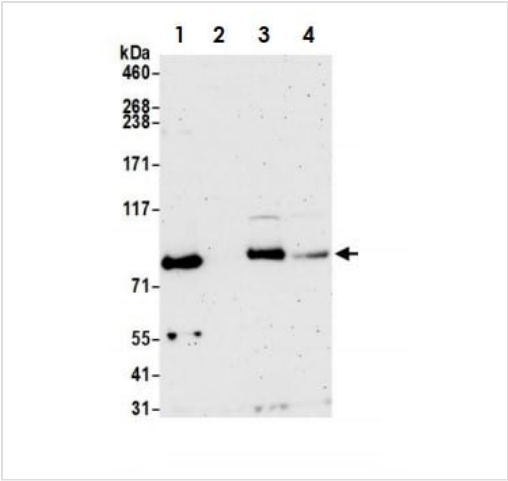
Involvement in disease Defects in FOXO1 are a cause of rhabdomyosarcoma type 2 (RMS2) [MIM:268220]. It is a form of rhabdomyosarcoma, a highly malignant tumor of striated muscle derived from primitive mesenchimal cells and exhibiting differentiation along rhabdomyoblastic lines. Rhabdomyosarcoma is one of the most frequently occurring soft tissue sarcomas and the most common in children. It occurs in four forms: alveolar, pleomorphic, embryonal and botryoidal rhabdomyosarcomas. Note=Chromosomal aberrations involving FOXO1 are found in rhabdomyosarcoma. Translocation (2;13)(q35;q14) with PAX3; translocation t(1;13)(p36;q14) with PAX7. The resulting protein is a transcriptional activator.

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

Post-translational modifications Phosphorylated by AKT1; insulin-induced (By similarity). IGF1 rapidly induces phosphorylation of Ser-256, Thr-24, and Ser-319. Phosphorylation of Ser-256 decreases DNA-binding activity and promotes the phosphorylation of Thr-24, and Ser-319, permitting phosphorylation of Ser-322 and Ser-325, probably by CK1, leading to nuclear exclusion and loss of function. Phosphorylation of Ser-329 is independent of IGF1 and leads to reduced function. Phosphorylated upon DNA damage, probably by ATM or ATR.

Cellular localization Cytoplasm. Nucleus. Shuttles between cytoplasm and nucleus.

Images



Western blot - Anti-FOXO1A antibody (ab70382)

All lanes : Anti-FOXO1A antibody (ab70382) at 0.1 µg/ml

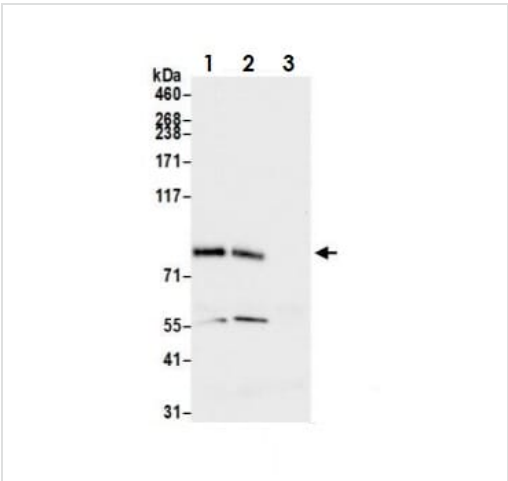
Lane 1 : HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate
Lane 2 : HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate
Lane 3 : HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate
Lane 4 : RKO (Human colon carcinoma cell line) whole cell lysate

Lysates/proteins at 50 µg per lane.

Predicted band size: 70 kDa

Exposure time: 3 minutes

Lysates prepared using NTEN lysis buffer.



Immunoprecipitation - Anti-FOXO1A antibody (ab70382)

Detection of human FOXO1A by western blot of immunoprecipitates.
Samples: Whole cell lysate (1.0 mg per IP reaction; 20% of IP loaded) from HepG2 (Human liver hepatocellular carcinoma cell line) cells prepared using NETN lysis buffer.
Antibodies: ab70382 used for IP at 6 µg per reaction. FOXO1A was also immunoprecipitated by a previous lot of this antibody. For blotting immunoprecipitated ab70382 was used at 0.1 µg/ml.

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