

Product datasheet

Anti-FOXO1A antibody ab39670

★★★★☆ 12 Abreviews 79 References 6 Images

Overview

Product name	Anti-FOXO1A antibody
Description	Rabbit polyclonal to FOXO1A
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, ELISA, ChIP, WB, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to Human FOXO1A. Synthetic non-phosphopeptide derived from human FOXO1A around the phosphorylation site of serine 319. Database link: Q12778

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. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride, PBS Without Mg ²⁺ and Ca ²⁺
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab39670 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
ICC/IF	★★★★★ (1)	Use a concentration of 1 - 5 µg/ml.
ELISA		Use at an assay dependent concentration.
ChIP	★★★★★ (1)	Use at an assay dependent concentration. PubMed: 20467422 See Abreview.
WB	★★★★★ (6)	1/500 - 1/1000. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).
IHC-P	★★★★★ (3)	Use at an assay dependent concentration.

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.

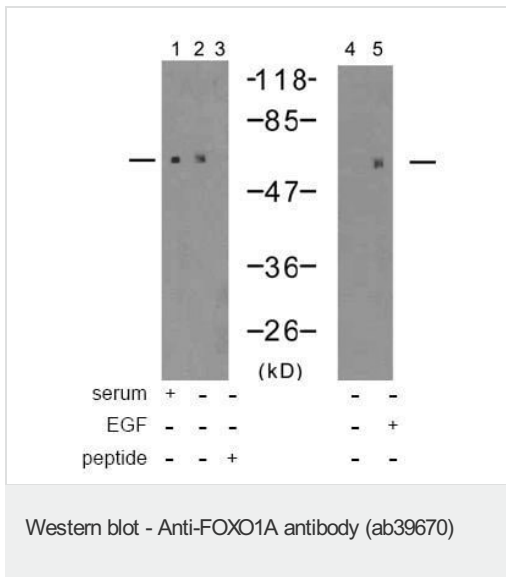
Involvement in disease Defects in FOXO1 are a cause of rhabdomyosarcoma type 2 (RMS2) [MIM:268220]. It is a form of rhabdomyosarcoma, a highly malignant tumor of striated muscle derived from primitive mesenchymal cells and exhibiting differentiation along rhabdomyoblastic lines. Rhabdomyosarcoma is one 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



Lanes 1-3 : Anti-FOXO1A antibody (ab39670) at 1/500 dilution

Lanes 4-5 : Anti-FOXO1A (phospho S319) antibody (ab38516) at 1/500 dilution

Lane 1 : 293 Cell extract

Lanes 2-5 : HeLa Cell extract

Lysates/proteins at 30 µg per lane.

Secondary

All lanes : Alkaline Phosphatase AffiniPure Goat Anti-Rabbit IgG (H+L)

Predicted band size: 70 kDa

Observed band size: 70 kDa

10% gel.

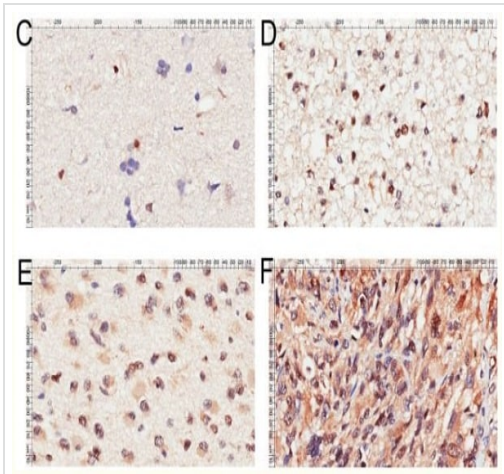
Running conditions: 60v, 30min; 120v 60min

Transfer conditions: 150mA 120min Nitrocellulose membrane.

Blocking conditions: 5% non-fat milk in TBST, RT, 90min.

Primary antibody incubation: 4h, overnight.

Washing condition: 5 ml TBST, 4 x 5min.



Tissue microarray analysis of FOXO1 expression

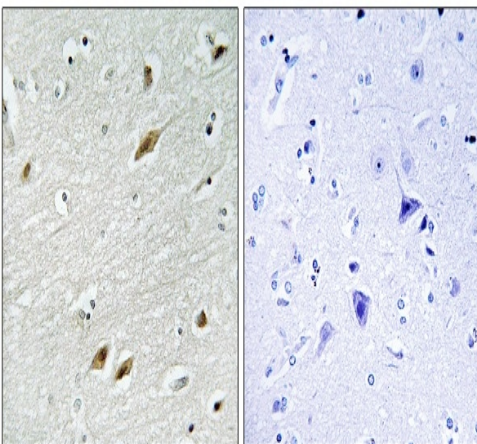
Representative images of FOXO1 expression in normal brain tissue (C, $\times 200$); grade II diffuse astrocytoma (D, $\times 200$); grade III anaplastic astrocytoma (E, $\times 200$) and grade IV glioblastoma (F, $\times 200$).

FOXO1 was detected using ab39670 at 1/200 dilution. The tissue microarray was constructed from paraffin-embedded human brain tissue samples.

(After Figure 1 of Chen et al).

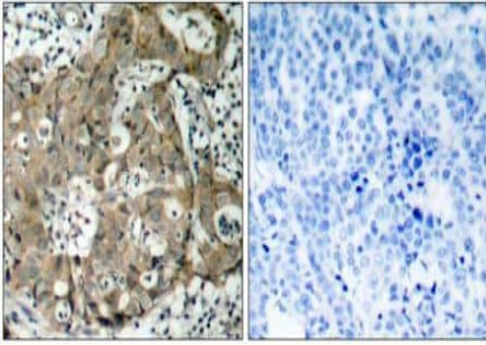
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXO1A antibody (ab39670)

Chen, C. et al PLoS One. 2013 Jul 9;8(7):e69260. doi: 10.1371/journal.pone.0069260. Print 2013 Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>



Paraffin-embedded human brain tissue stained for FOXO1 with ab39670 at 1/50 dilution in immunohistochemical analysis. The right hand image was obtained following blocking with the immunizing peptide.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXO1A antibody (ab39670)

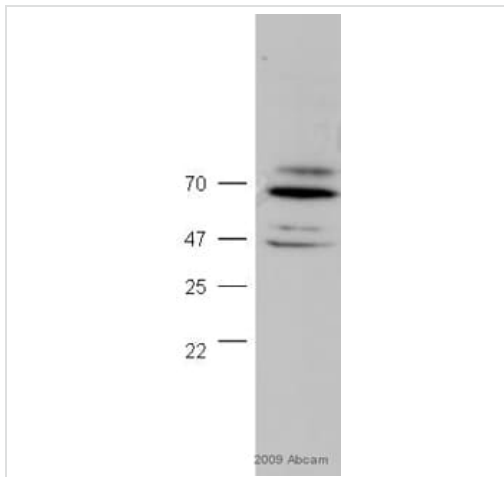


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FOXO1A antibody (ab39670)

Immunohistochemical analysis of paraffin-embedded human breast carcinoma tissue using ab39670. (Left image: without peptide; Right image: with peptide 1µg/ml).

Immunocytochemistry/ Immunofluorescence - Anti-FOXO1A antibody (ab39670)

ICC/IF image of ab39670 stained MCF7 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 (ab39670, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) 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.



Western blot - Anti-FOXO1A antibody (ab39670)
This image is courtesy of an anonymous abreview.

Anti-FOXO1A antibody (ab39670) at 1/1000 dilution + Whole cell lysates prepared from human Jurkat cells at 200000 cells

Secondary

HRP-conjugated donkey polyclonal to rabbit IgG at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 70 kDa

Observed band size: 70 kDa

Additional bands at: 45 kDa (possible non-specific binding), 50 kDa (possible non-specific binding), 80 kDa (possible non-specific binding)

Exposure time: 30 seconds

Primary diluted in PBS (BSA + 0.1% Tween20) and incubated with

sample for 90 minutes at 20°C.

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