abcam

Product datasheet

Anti-FOXO1A (phospho S319) antibody ab47326

3 Images

Overview

Product name	Anti-FOXO1A (phospho S319) antibody
Description	Rabbit polyclonal to FOXO1A (phospho S319)
Host species	Rabbit
Specificity	This antibody detects endogenous levels of FOXO1A only when phosphorylated at serine 319. (Human: Ser319; Mouse: Ser316; Rat: Ser313)
Tested applications	**Suitable for:** ICC/IF, WB, IHC-P, ELISA
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic phosphopeptide derived from human FOXO1A around the phosphorylation site of serine 319 (T-S-S^{P}-N-A)
Positive control	human breast carcinoma, HeLa cells.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS, 150mM Sodium chloride, pH 7.4
Purity	Immunogen affinity purified
Purification notes	The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab47326** 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		
WB		
IHC-P		
ELISA		

Application notes

ELISA: 1/10000.
ICC/IF: Use at a concentration of 1 µg/ml.
IHC-P: 1/50 - 1/100.
WB: 1/500 - 1/1000. Detects a band of approximately 70 kDa (predicted molecular weight: 70 kDa).

Not yet tested in other applications.
Optimal dilutions/concentrations should be determined by the end user.

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.

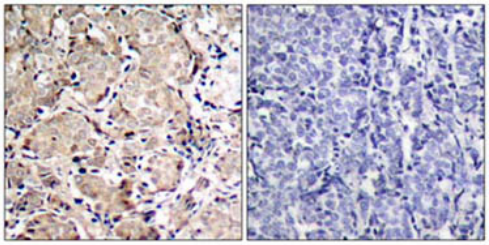
Post-translational modifications

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

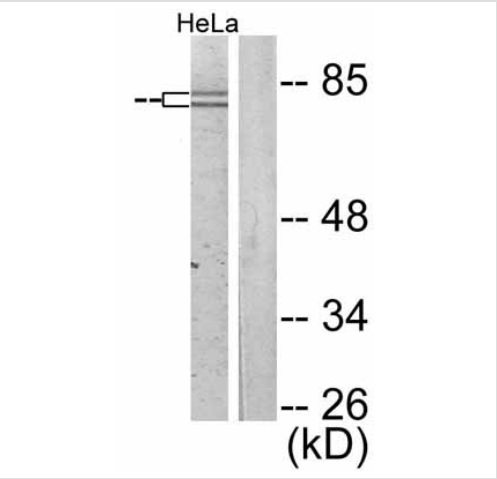
Cytoplasm. Nucleus. Shuttles between cytoplasm and nucleus.

Images



Immunohistochemistry (Paraffin-embedded sections) - FOXO1A (phospho S319) antibody (ab47326)

ab47326 staining human breast carcinoma tissue by IHC-P (left hand panel). The right hand panel shows staining in the presence of phospho-peptide.



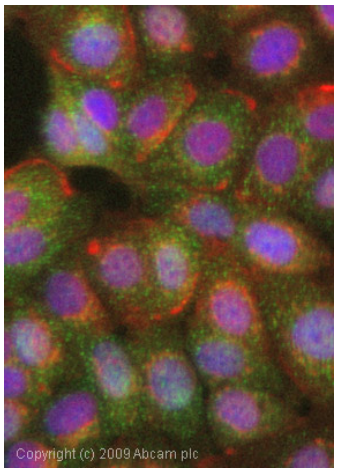
Western blot - FOXO1A (phospho S319) antibody (ab47326)

All lanes : Anti-FOXO1A (phospho S319) antibody (ab47326)

Lane 1 : extracts from EGF treated HeLa cells
Lane 2 : extracts from HeLa cells

Predicted band size: 70 kDa

Typically 5-30ug of total protein was loaded per lane of the gel.



Immunocytochemistry/ Immunofluorescence - FOXO1A (phospho S319) antibody (ab47326)

ICC/IF image of ab47326 stained MCF7 cells. The cells were 4% formaldehyde 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 (ab47326, 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.

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