

# FOXO4 Antibody

Catalog # ASC11153

## Product Information

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<b>Application</b>	WB, IF, ICC, E
<b>Primary Accession</b>	<a href="#">P98177</a>
<b>Other Accession</b>	<a href="#">NP_005929</a> , <a href="#">103472003</a>
<b>Reactivity</b>	Human, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG
<b>Calculated MW</b>	53684
<b>Concentration (mg/ml)</b>	1 mg/mL
<b>Conjugate</b>	Unconjugated
<b>Application Notes</b>	FOXO4 antibody can be used for detection of FOXO4 by Western blot at 0.5 - 1 $\mu$ g/mL. Antibody can also be used for immunocytochemistry starting at 10 $\mu$ g/mL. For immunofluorescence start at 20 $\mu$ g/mL.

## Additional Information

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<b>Gene ID</b>	4303
<b>Other Names</b>	Forkhead box protein O4, Fork head domain transcription factor AFX1, FOXO4, AFX, AFX1, MLLT7
<b>Target/Specificity</b>	FOXO4;
<b>Reconstitution &amp; Storage</b>	FOXO4 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
<b>Precautions</b>	FOXO4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	FOXO4
<b>Synonyms</b>	AFX, AFX1, MLLT7
<b>Function</b>	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.

### Cellular Location

Cytoplasm. Nucleus. Note=When phosphorylated, translocated from nucleus to cytoplasm. Dephosphorylation triggers nuclear translocation. Monoubiquitination increases nuclear localization. When deubiquitinated, translocated from nucleus to cytoplasm

### Tissue Location

Heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. Isoform zeta is most abundant in the liver, kidney, and pancreas

## Background

**FOXO4 Antibody:** FOXO4 is a ubiquitously expressed protein member of a subfamily of the forkhead homeotic gene family of transcription factors and shuttles between the cytoplasm and nucleus. FOXO transcription factors are key players of cell fate decisions, metabolism, stress resistance, tumor suppression and are regulated by growth factors, oxidative stress or nutrient deprivation. In the absence of PI3K/AKT activation, FOXO4 localizes in the nucleus where it functions as a transcription factor. FOXO4 can also be phosphorylated by JNK following induction of reactive oxygen species (ROS), resulting in transcriptional activation and the induction of a negative feedback mechanism to counteract the ROS. It is through this mechanism that FOXO4 is thought to sensitize cancer cells to doxorubicin-mediated toxicity.

## References

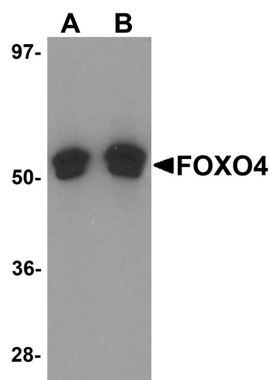
Anderson MJ, Viars CS, Czekay S, et al. Cloning and characterization of three human forkhead genes that comprise an FKHR-like gene subfamily. *Genomics*1998; 47:187-99.

Greer EL and Brunet A. FOXO transcription factors at the interface between longevity and tumor suppression. *Oncogene*2005; 24:7410-25.

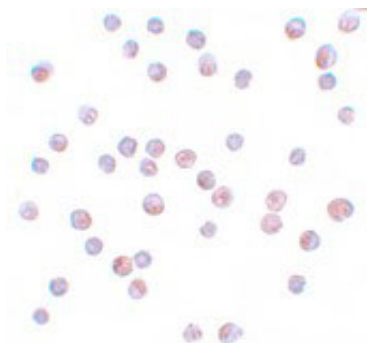
Manning BD and Cantley LC. AKT/PKB signaling: navigating downstream. *Cell*2007; 129:1261-74.

Essers MA, Weijzen S, de Vries-Smits AM, et al. FOXO transcription factor activation by oxidative stress mediated by the small GTPase Ral and JNK. *EMBO J.*2004; 23:4802-12.

## Images



Western blot analysis of FOXO4 in A-20 cell lysate with FOXO4 antibody at (A) 0.5 and (B) 1 µg/mL.



Immunocytochemistry of FOXO4 in HeLa cells with FOXO4 antibody at 10 µg/mL.

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