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phospho-FOXO4 (Thr451) Rabbit pAb

Catalog # AP99279

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P98177
Other Accession	P98177
Reactivity	Rat
Predicted	Pig, Human, Mouse, Rabbit, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	53684
Physical State	Liquid
Immunogen	KLH conjugated synthesised phosphopeptide derived from human FOXO4 around the phosphorylation site of Thr451
Epitope Specificity	LG(p-T)PV
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 fork-head DNA-binding domain.
SUBUNIT	Interacts with CREBBP/CBP, CTNNB1, MYOCD, SIRT1, SRF and YWHAZ. Acetylated by CREBBP/CBP and deacetylated by SIRT1. Binding of YWHAZ inhibits DNA-binding. Interacts with USP7; the interaction is enhanced in presence of hydrogen peroxide and occurs independently of TP53. Interacts with NLK, and this inhibits monoubiquitination and transcriptional activity.
Post-translational modifications	Acetylation by CBP, which is induced by peroxidase stress, inhibits transcriptional activity. Deacetylation by SIRT1 is NAD-dependent and stimulates transcriptional activity. Phosphorylation by PKB/AKT1 inhibits transcriptional activity and is responsible for cytoplasmic localization. Monoubiquitinated; monoubiquitination is induced by oxidative stress and reduced by deacetylase inhibitors; results in its relocalization to the nucleus and its increased transcriptional activity. Deubiquitinated by USP7; deubiquitination is induced by oxidative stress; enhances its interaction with USP7 and consequently, deubiquitination; increases its translocation to the cytoplasm and inhibits its transcriptional activity. Hydrogene-peroxide-induced ubiquitination and USP7-mediated deubiquitination have no major effect on its protein stability.
DISEASE	Note=A chromosomal aberration involving FOXO4 is found in acute leukemias. Translocation t(X;11)(q13;q23) with MLL/HRX. The result is a rogue activator protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the O class of winged helix/forkhead transcription factor family. Proteins encoded by this class are regulated by factors involved in growth and differentiation indicating they play a role in these processes. A translocation involving this gene on chromosome X and the homolog of the Drosophila trithorax gene, encoding a DNA binding protein, located on chromosome 11 is associated with leukemia. Multiple transcript variants encoding different isoforms have been found for this gene.

[provided by RefSeq, Jan 2010]

Additional Information

Gene ID	4303
Other Names	AFX; AFX1; MLLT7; Afxh; RGD1561201; FOXO4_HUMAN; FOXO4; Fork head domain transcription factor AFX1; FOXO4_MOUSE; Fkhr3; forkhead box O4; myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog); translocated to, 7; myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); FOXO4 (phospho-T451); p-FOXO4; phospho-FOXO4; FOXO4 (phospho-Thr451)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	FOXO4
Synonyms	AFX, AFX1, MLLT7
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.
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

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