

Rabbit FOXO3A Polyclonal Antibody | anti-FOXO3A antibody

Phospho-FOXO3A (Ser318) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329809	Rabbit	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (91%), Xenopus (91%)	ELISA, Western Blot

PRODUCT SYNONYMS

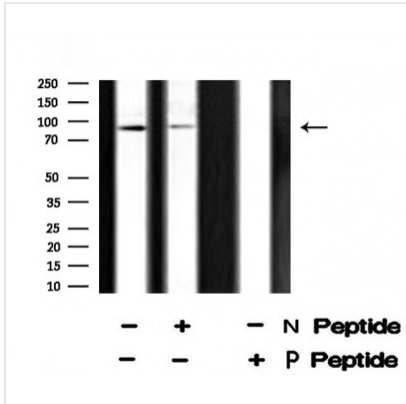
FOXO3A; Polyclonal Antibody; Phospho-FOXO3A (Ser318) Antibody; AF6q21; AF6q21 protein; DKFZp781A0677; FKHR2; FKHL1; FKHL1P2; Forkhead (Drosophila) homolog (rhabdomyosarcoma) like 1; Forkhead box O3; Forkhead box O3A; Forkhead box protein O3; Forkhead box protein O3A; Forkhead Drosophila homolog of in rhabdomyosarcoma like 1; Forkhead homolog (rhabdomyosarcoma) like 1; Forkhead in rhabdomyosarcoma like 1; Forkhead in rhabdomyosarcoma-like 1; FOX O3A; FOXO2; foxo3; FOXO3_HUMAN; MGC12739; MGC31925; anti-FOXO3A antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted Reactivity: Pig (100%), Bovine (100%), Horse (100%), Sheep (100%), Rabbit (100%), Dog (100%), Chicken (91%), Xenopus (91%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-FOXO3A (Ser318) Antibody detects endogenous levels of FOXO3A only when phosphorylated at Ser318. Tissue Specificity: Ubiquitous.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-FOXO3A antibody	ELISA (Peptide ELISA), WB (Western Blot)
Immunogen	A synthesized peptide derived from human FOXO3A around the phosphorylation site of Ser318.
Conjugation	Unconjugated
Fragment	Fab fragment

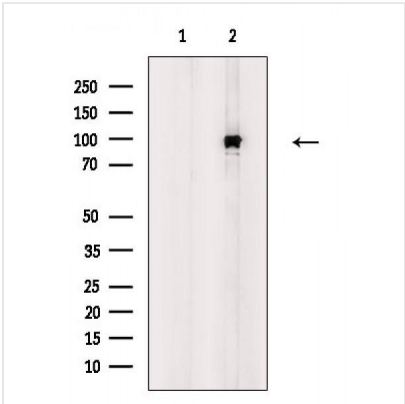
Post Translational Modifications	In the presence of survival factors such as IGF-1, phosphorylated on Thr-32 and Ser-253 by AKT1/PKB. This phosphorylated form then interacts with 14-3-3 proteins and is retained in the cytoplasm. Survival factor withdrawal induces dephosphorylation and promotes translocation to the nucleus where the dephosphorylated protein induces transcription of target genes and triggers apoptosis. Although AKT1/PKB doesn't appear to phosphorylate Ser-315 directly, it may activate other kinases that trigger phosphorylation at this residue. Phosphorylated by STK4/MST1 on Ser-209 upon oxidative stress, which leads to dissociation from YWHAB/14-3-3-beta and nuclear translocation. Phosphorylated by PIM1. Phosphorylation by AMPK leads to the activation of transcriptional activity without affecting subcellular localization. In response to metabolic stress, phosphorylated by AMPK on Ser-30 which mediates FOXO3 mitochondrial translocation. Phosphorylation by MAPKAPK5 promotes nuclear localization and DNA-binding, leading to induction of miR-34b and miR-34c expression, 2 post-transcriptional regulators of MYC that bind to the 3'UTR of MYC transcript and prevent its translation. Phosphorylated by CHUK/IKKA and IKBKB/IKKB. TNF-induced inactivation of FOXO3 requires its phosphorylation at Ser-644 by IKBKB/IKKB which promotes FOXO3 retention in the cytoplasm, polyubiquitination and ubiquitin-mediated proteasomal degradation. May be dephosphorylated by calcineurin A on Ser-299 which abolishes FOXO3 transcriptional activity (By similarity). In cancer cells, ERK mediated-phosphorylation of Ser-12 is required for mitochondrial translocation of FOXO3 in response to metabolic stress or chemotherapeutic agents. Deacetylation by SIRT1 or SIRT2 stimulates interaction of FOXO3 with SKP2 and facilitates SCF (SKP2)-mediated FOXO3 ubiquitination and proteasomal degradation. Deacetylation by SIRT2 stimulates FOXO3-mediated transcriptional activity in response to oxidative stress (By similarity). Deacetylated by SIRT3. Deacetylation by SIRT3 stimulates FOXO3-mediated mtDNA transcriptional activity in response to metabolic stress. Heavily methylated by SET9 which decreases stability, while moderately increasing transcriptional activity. The main methylation site is Lys-271. Methylation doesn't affect subcellular location. Polyubiquitinated. Ubiquitinated by a SCF complex containing SKP2, leading to proteasomal degradation. The N-terminus is cleaved following import into the mitochondrion.
Subunit Structure	Upon metabolic stress, forms a complex composed of FOXO3, SIRT3 and mitochondrial RNA polymerase POLRMT; the complex is recruited to mtDNA in a SIRT3-dependent manner. Also forms a complex composed of FOXO3, SIRT3, TFAM and POLRMT. Interacts with SIRT2; the interaction occurs independently of SIRT2 deacetylase activity (By similarity). Interacts with YWHAB/14-3-3-beta and YWHAZ/14-3-3-zeta, which are required for cytosolic sequestration. Upon oxidative stress, interacts with STK4/MST1, which disrupts interaction with YWHAB/14-3-3-beta and leads to nuclear translocation. Interacts with PIM1. Interacts with DDIT3/CHOP. Interacts (deacetylated form) with SKP2. Interacts with CHUK and IKBKB. Interacts with CAMK2A, CAMK2B and calcineurin A (By similarity). Interacts FOXO3; this interaction represses FOXO3 transactivation.
Subcellular Location	Cytoplasm>Cytosol. Nucleus. Mitochondrion matrix. Mitochondrion outer membrane>Peripheral membrane protein>Cytoplasmic side. Note: Retention in the cytoplasm contributes to its inactivation (PubMed:10102273, PubMed:15084260, PubMed:16751106). Translocates to the nucleus upon oxidative stress and in the absence of survival factors (PubMed:10102273, PubMed:16751106). Translocates from the cytosol to the nucleus following dephosphorylation in response to autophagy-inducing stimuli (By similarity). Translocates in a AMPK-dependent manner into the mitochondrion in response to metabolic stress (PubMed:23283301, PubMed:29445193).
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



WB (Western Blot)

Western blot analysis FKHL1 (Phospho-Ser318) using A549 whole cell lysates. -/+ means absence or presence of N peptide(1/4 non-phospho peptide) and P peptide(phospho peptide).



WB (Western Blot)

Western blot analysis of extracts from 3T3-L1P6(heat shock treatment), using Phospho-FOXO3A (Ser318) Antibody. The lane on the left was treated with blocking peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-FOXO3A antibody	Transcriptional activator that recognizes and binds to the DNA sequence 5'-[AG]TAA[TC]A-3' and regulates different processes, such as apoptosis and autophagy. Acts as a positive regulator of autophagy in skeletal muscle: in starved cells, enters the nucleus following dephosphorylation and binds the promoters of autophagy genes, such as GABARAP1L, MAP1LC3B and ATG12, thereby activating their expression, resulting in proteolysis of skeletal muscle proteins (By similarity). Triggers apoptosis in the absence of survival factors, including neuronal cell death upon oxidative stress. Participates in post-transcriptional regulation of MYC: following phosphorylation by MAPKAPK5, promotes induction of miR-34b and miR-34c expression, 2 post-transcriptional regulators of MYC that bind to the 3'UTR of MYC transcript and prevent its translation. In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4503739
NCBI GeneID	2309
NCBI Accession #	NP_001446.1
NCBI GenBank Nucleotide #	NM_001455.3
UniProt Accession #	O43524; O15171; Q5T2I7; Q9BZ04; E1P5E6
Molecular Weight	71,277 Da
NCBI Official Full Name	forkhead box protein O3
NCBI Official Synonym Full Names	forkhead box O3
NCBI Official Symbol	FOXO3
NCBI Official Synonym Symbols	FOXO2; AF6q21; FKHRL1; FOXO3A; FKHRL1P2
NCBI Protein Information	forkhead box protein O3; forkhead box O3A; forkhead in rhabdomyosarcoma-like 1; forkhead homolog (rhabdomyosarcoma) like 1; forkhead, Drosophila, homolog of, in rhabdomyosarcoma-like 1
UniProt Protein Name	Forkhead box protein O3
UniProt Gene Name	FOXO3
UniProt Synonym Gene Names	FKHRL1; FOXO3A
UniProt Entry Name	FOXO3_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/foxo3a-antibody-peptide-elisa-western-blot-elisa/329809>