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FoxO3a Antibody

Rabbit mAb
Catalog # AP90145

Product Information

Application	WB, IHC, IF, ICC, IHF
Primary Accession	O43524
Reactivity	Human
Clonality	Monoclonal
Other Names	Forkhead box protein O3; AF6q21 protein; Forkhead in rhabdomyosarcoma-like 1; FOXO3; FKHRL1; FOXO3A
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	71277

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human FoxO3a
Description	FoxO3a is a transcriptional activator which triggers apoptosis in the absence of survival factors, including neuronal cell death upon oxidative stress. Recognizes and binds to the DNA sequence 5'-[AG]TAAA[TC]A-3'. 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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	FOXO3 (HGNC:3821)
Function	Transcriptional activator that recognizes and binds to the DNA sequence 5'-[AG]TAAA[TC]A-3' and regulates different processes, such as apoptosis and autophagy (PubMed:10102273, PubMed:16751106, PubMed:21329882, PubMed:30513302). 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 (PubMed:10102273, PubMed:16751106). 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 (PubMed:21329882). In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription (PubMed:23283301). In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription. Also acts as a key regulator of chondrogenic commitment of skeletal progenitor cells in response to lipid availability: when lipids levels are low, translocates to the nucleus and promotes expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation (By similarity). Also acts as a key regulator of regulatory T-cells (Treg) differentiation by activating expression of FOXP3 (PubMed:30513302).

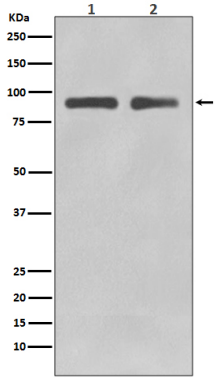
Cellular Location

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). Serum deprivation increases localization to the nucleus, leading to activate expression of SOX9 and subsequent chondrogenesis (By similarity). {ECO:0000250|UniProtKB:Q9WVH4, ECO:0000269|PubMed:10102273, ECO:0000269|PubMed:15084260, ECO:0000269|PubMed:16751106, ECO:0000269|PubMed:23283301, ECO:0000269|PubMed:29445193}

Tissue Location

Ubiquitous..

Images



Western blot analysis of FoxO3a in (1) Jurkat cell lysate; (2) SH-SY5Y cell lysate.

Image not found : 202311/AP90145-IHC.jpg

Immunohistochemical analysis of paraffin-embedded human bladder carcinoma, using FoxO3a Antibody.

Image not found : 202311/AP90145-IF.jpg

Immunofluorescent analysis of Hela cells, using FoxO3a Antibody .

Image not found : 202311/AP90145-wb6.jpg

LncRNA AK023391 promotes tumorigenesis and invasion of gastric cancer through activation of the PI3K/Akt signaling pathway. -Journal of Experimental & Clinical Cancer Research

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