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Anti-FOXO3A Picoband Antibody

Catalog # ABO11887

Product Information

Application	WB, IHC-P
Primary Accession	O43524
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Forkhead box protein O3(FOXO3) detection. Tested with WB, IHC-P in Human;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2309
Other Names	Forkhead box protein O3, AF6q21 protein, Forkhead in rhabdomyosarcoma-like 1, FOXO3 (HGNC:3821)
Calculated MW	71277
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Western blot, 0.1-0.5 □g/ml, Human, Rat
Subcellular Localization	Cytoplasm, cytosol. Nucleus. Translocates to the nucleus upon oxidative stress and in the absence of survival factors.
Tissue Specificity	Ubiquitous. .
Source	Eukaryota
Protein Name	Forkhead box protein O3
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human FOXO3A recombinant protein (Position: Q471-G673). Human FOXO3A shares 97% amino acid (aa) sequence identity with mouse FOXO3A.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Contains 1 fork-head DNA-binding domain.

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..

Background

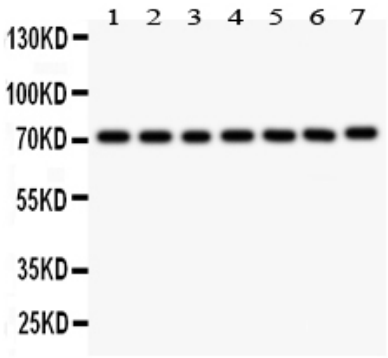
Forkhead box O3, also known as FKHRL1 or FOXO3a, is a human protein encoded by the FOXO3 gene. FOXO3 belongs to the O subclass of the forkhead family of transcription factors which are characterized by a distinct fork head DNA-binding domain. It is mapped to 6q21. This protein likely functions as a trigger for apoptosis through upregulation of genes necessary for cell death, such as Bim and PUMA, or downregulation of anti-apoptotic proteins such as FLIP. In mammals FOXO3 regulates the resistance of cells

to stress by inducing DNA repair and thereby may also affect organismal life span. In addition, it is thought that FOXO3 is also involved in protection from oxidative stress by upregulating antioxidants such as catalase and MnSOD.

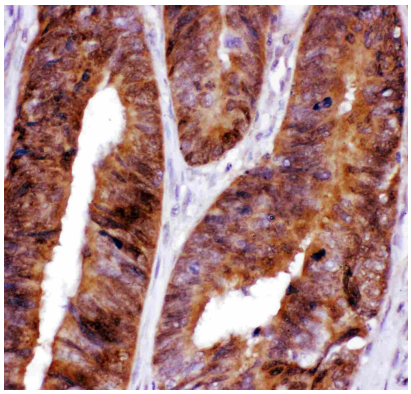
Images



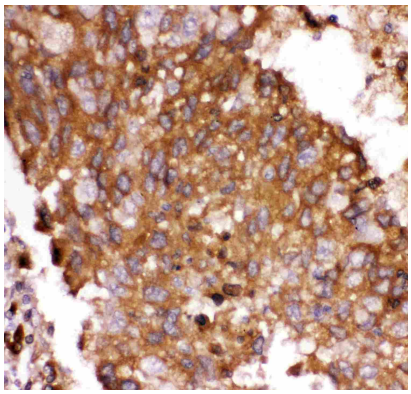
Anti- FOXO3A antibody, ABO11887, Western blottingAll lanes: Anti FOXO3A (ABO11887) at 0.5ug/mlWB: Recombinant Human FOXO3A Protein 0.5ngPredicted bind size: 39KDObserved bind size: 39KD



Anti- FOXO3A antibody, ABO11887, Western blottingAll lanes: Anti FOXO3A (ABO11887) at 0.5ug/mlLane 1: Rat Thymus Tissue Lysate at 50ugLane 2: NRK Whole Cell Lysate at 40ugLane 3: PC-12Whole Cell Lysate at 40ugLane 4: HEPG2 Whole Cell Lysate at 40ugLane 5: HELA Whole Cell Lysate at 40ugLane 6: K562 Whole Cell Lysate at 40ugLane 7: JURKAT Whole Cell Lysate at 40ugPredicted bind size: 71KDObserved bind size: 71KD



Anti- FOXO3A antibody, ABO11887,IHC(P) IHC(P): Human Intestinal Cancer Tissue



Anti- FOXO3A antibody, ABO11887,IHC(P) IHC(P): Human Lung Cancer Tissue

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