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FOXO3a Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10509

Specification

FOXO3a Antibody - Product Information

Application	**WB, IP**
Primary Accession	O43524
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**71277**

FOXO3a Antibody - Additional Information

Gene ID 2309

Application & Usage	**Western blotting (0.5-4 µg/ml). Jurkat cell lysate and rat liver or rat kidney tissue lysate can be used as a positive control. A ~75 kDa band should be detected.**

Other Names
FOXO3A , 602681 , O43524 , AF6q21 , DKFZp781A0677 , FKHRL1 , FKHRL1P2 , MGC12739 , MGC31925

Target/Specificity
FOXO3a

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.2mg/ml) affinity purified rabbit anti-FOXO3a polyclonal antibody in phosphate-buffered saline (PBS) containing 0.5% BSA, 30% glycerol, and 0.01% thimerosal.

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
FOXO3a Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

FOXO3a Antibody - 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..

FOXO3a Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

FOXO3a Antibody - Images

FOXO3a Antibody - Background

Mammalian forkhead members of the class O (FOXO) transcription factors, including FOXO1, FOXO3a, and FOXO4, are implicated in the regulation of a variety of cellular processes, including the cell cycle, apoptosis, DNA repair, stress resistance, and metabolism. FOXO proteins are negatively regulated by the phosphatidylinositol 3-kinase-Akt signaling pathway, which is activated by growth factors and cytokines. Recent studies indicate that the activities of FOXO proteins are also regulated by oxidative stress, which induces their phosphorylation, translocation to the nucleus, and acetylation-deacetylation. Similar to the tumor suppressor p53, FOXO is activated by stress and induces the expression of genes that contribute to cell-cycle arrest, s µggesting that it also functions as a tumor suppressor.