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FOXO3 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP13306a

Specification

FOXO3 Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	O43524
Other Accession	Q9WVH4, NP_963853.1, NP_001446.1, A0A2Z4LIS9
Reactivity	**Human**
Predicted	**Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**1-30**

FOXO3 Antibody (N-term) - Additional Information

Gene ID 2309

Other Names
Forkhead box protein O3, AF6q21 protein, Forkhead in rhabdomyosarcoma-like 1, FOXO3, FKHRL1, FOXO3A

Target/Specificity
This FOXO3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human FOXO3.

Dilution
WB~~1:1000
IHC-P~~1:10~50

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
FOXO3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

FOXO3 Antibody (N-term) - 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..

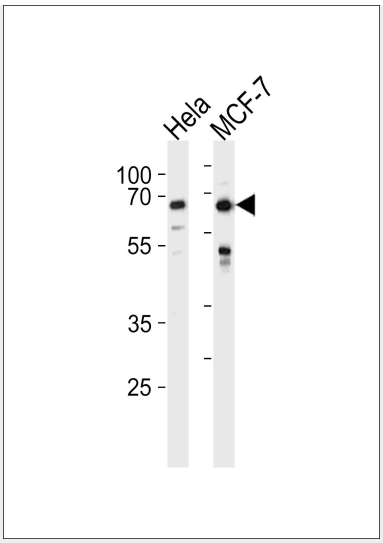
FOXO3 Antibody (N-term) - Protocols

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

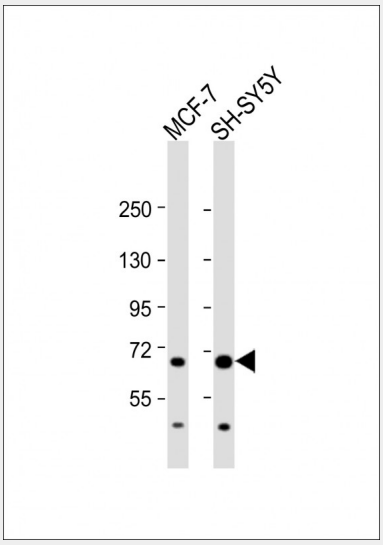
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

FOXO3 Antibody (N-term) - Images

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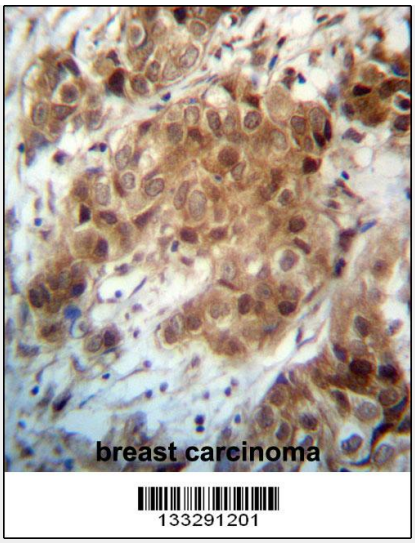


FOXO3 Antibody (N-term) (Cat. #AP13306a) western blot analysis in Hela,MCF-7 cell line lysates (35ug/lane).This demonstrates the FOXO3 antibody detected the FOXO3 protein (arrow).



All lanes : Anti-FOXO3 Antibody (N-term) at 1:1000 dilution Lane 1: MCF-7 whole cell lysate Lane 2: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 71 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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FOXO3 Antibody (N-term) (Cat. #AP13306a)immunohistochemistry analysis in formalin fixed and paraffin embedded human breast carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of FOXO3 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

FOXO3 Antibody (N-term) - Background

This gene belongs to the forkhead family of transcription factors which are characterized by a distinct forkhead domain. This gene likely functions as a trigger for apoptosis through expression of genes necessary for cell death. Translocation of this gene with the MLL gene is associated with secondary acute leukemia. Alternatively spliced transcript variants encoding the same protein have been observed.

FOXO3 Antibody (N-term) - References

Zhuo de, X., et al. J. Biol. Chem. 285(41):31491-31501(2010)
Tudzarova, S., et al. EMBO J. 29(19):3381-3394(2010)
Shimada, M., et al. Hum. Genet. 128(4):433-441(2010)
Mikse, O.R., et al. Cancer Res. 70(15):6205-6215(2010)
Chen, J., et al. PLoS ONE 5 (8), E12293 (2010) :