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FOXO3 Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP13306a

Specification

FOXO3 Antibody (N-term) Blocking peptide - Product Information

Primary Accession O43524

FOXO3 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 2309

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13306a was selected from the N-term region of FOXO3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

FOXO3 Antibody (N-term) Blocking peptide - 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:<a href="http://www.uniprot.org/citations/16751106"

target="_blank">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) Blocking peptide - Protocols

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

- Blocking Peptides

FOXO3 Antibody (N-term) Blocking peptide - Images

FOXO3 Antibody (N-term) Blocking peptide - Background

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

FOXO3 Antibody (N-term) Blocking peptide - 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) :