

FOXO3 / FOXO3A Antibody (clone 4F2)
Mouse Monoclonal Antibody
Catalog # ALS14374

Specification

FOXO3 / FOXO3A Antibody (clone 4F2) - Product Information

Application	IF, IHC
Primary Accession	O43524
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	71kDa KDa

FOXO3 / FOXO3A Antibody (clone 4F2) - Additional Information

Gene ID 2309

Other Names

Forkhead box protein O3, AF6q21 protein, Forkhead in rhabdomyosarcoma-like 1, FOXO3, FKHL1, FOXO3A

Target/Specificity

Human FOXO3

Reconstitution & Storage

Aliquot and store at -20°C or -80°C. Avoid freeze-thaw cycles.

Precautions

FOXO3 / FOXO3A Antibody (clone 4F2) is for research use only and not for use in diagnostic or therapeutic procedures.

FOXO3 / FOXO3A Antibody (clone 4F2) - 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](http://www.uniprot.org/citations/10102273), PubMed: [16751106](http://www.uniprot.org/citations/16751106), PubMed: [21329882](http://www.uniprot.org/citations/21329882), PubMed: [30513302](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/10102273), PubMed: [16751106](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..

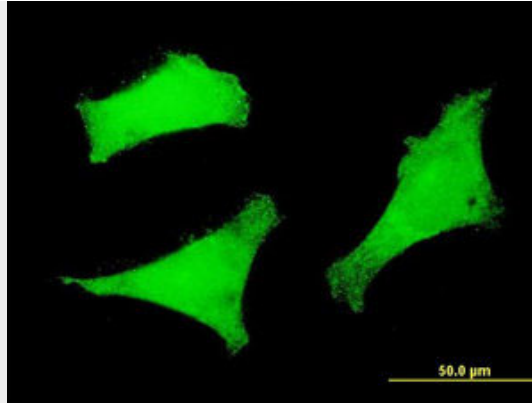
FOXO3 / FOXO3A Antibody (clone 4F2) - Protocols

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

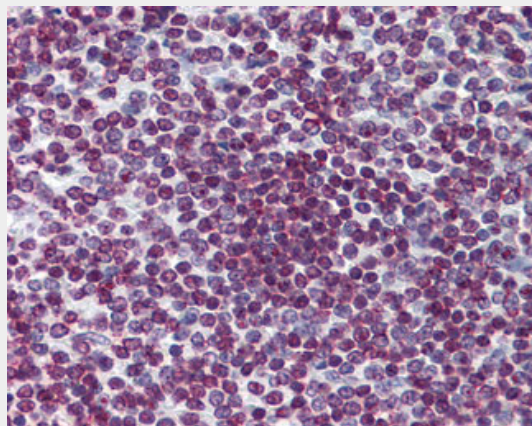
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

FOXO3 / FOXO3A Antibody (clone 4F2) - Images





Immunofluorescence of monoclonal antibody to FOXO3 on HeLa cell. [antibody concentration 10 ug/ml].



Anti-FOXO3A antibody IHC of human spleen.

FOXO3 / FOXO3A Antibody (clone 4F2) - Background

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.

FOXO3 / FOXO3A Antibody (clone 4F2) - References

- Anderson M.J., et al. *Genomics* 47:187-199(1998).
- Ota T., et al. *Nat. Genet.* 36:40-45(2004).
- Mungall A.J., et al. *Nature* 425:805-811(2003).
- Mural R.J., et al. Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
- Hillion J., et al. *Blood* 90:3714-3719(1997).