SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-FOXO3A antibody

Catalog Number: SL1548R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	FOXO3A
Immunogen:	KLH conjugated synthetic peptide derived from human FOXO3A: 581-673/673
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB (1:500-2000) Not yet tested in other applications. Optimal working dilutions must be determined by the end user.
Reactivity:	Human, Mouse
Predicted MW.:	74kDa
Subcellular Location:	The nucleus cytoplasmic
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. [provided by RefSeq, Jul 2008] **Function:** 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. **Subunit:** Interacts with YWHAB/14-3-3-beta and YWHAZ/14-3-3-zeta,

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	which are required for cytosolic sequestration. Upon oxidative stress, interacts with STK4/MST1, which disrupts interaction with YWHAB/14-3-3-beta and leads to nuclear translocation. Interacts with PIM1. **Subcellular Location:** Cytoplasm, cytosol. Nucleus. Note=Translocates to the nucleus upon oxidative stress and in the absence of survival factors. **Tissue Specificity:** Ubiquitous. **Post-translational modifications:** In the presence of survival factors such as IGF-1, phosphorylated on Thr-32 and Ser-253 by AKT1/PKB. This phosphorylated form then interacts with 14-3-3 proteins and is retained in the cytoplasm. Survival factor withdrawal induces dephosphorylation and promotes translocation to the nucleus where the dephosphorylated protein induces transcription of target genes and triggers apoptosis. Although AKT1/PKB doesn't appear to phosphorylate Ser-315 directly, it may activate other kinases that trigger phosphorylation at this residue. Phosphorylated by STK4/MST1 on Ser-209 upon oxidative stress, which leads to dissociation from YWHAB/14-3-3-beta and nuclear translocation. Phosphorylated by PIM1. Phosphorylation by AMPK leads to the activation of transcriptional activity without affecting subcellular localization. Phosphorylation by MAPKAPK5 promotes nuclear localization and DNA-binding, leading to 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. DISEASE: Note=A chromosomal aberration involving FOXO3 is found in secondary acute leukemias. Translocation t(6;11)(q21;q23) with MLL/HRX. **Similarity:** Contains 1 fork-head DNA-binding domain. **Database links:** **Entrez Gene:** 2309 Human **Entrez Gene:** 56484 Mouse **Entrez Gene:** 294515 Rat Omim: 602681 Human **SwissProt:** O43524 Human **SwissProt:** Q9WVH4 Mouse **Unigene:** 220950 Human **Unigene:** 338613 Mouse **Unigene:** 24593 Rat FOXO3a is an important member of the FOX (forkhead box) protein family, is related to cell transformation, tumour occurrence and development and angiogenesis, and is a known protein that controls the cell cycle and cell death.

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[VALIDATION IMAGES]

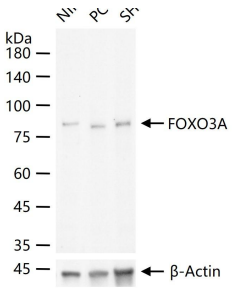


Figure 1. 25 ug total protein per lane of various lysates (see on figure) probed with FOXO3A polyclonal antibody, unconjugated (SL1548R) at 1:1000 dilution and 4°C overnight incubation. Followed by conjugated secondary antibody incubation at r.t. for 60 min

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