

Product name:	Phospho-FOXO3a(S253) Rabbit Monoclonal Antibody
Cat number:	MABN83791
Conjugate:	Unconjugated
Size:	100µL
Clone:	Monoclonal
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	A synthesized peptide derived from human FOXO3A around the phosphorylation site of S253
Reactivity:	Human,Mouse,Rat
Applications:	WB 1:1000-1:2000,IHC 1:100-1:200
Molecular Weight:	Calculated MW: 71 kDa ; Observed MW: 97 kDa
Purification:	Affinity Purification
Form:	Liquid
Buffer:	Purified antibody in PBS with 0.05% sodium azide,0.05% BSA and 50% glycerol.
Storage:	Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.

Background:

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. 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. Triggers apoptosis in the absence of survival factors, including neuronal cell death upon oxidative stress. 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).