

**Anti-FOXO3A Picoband Antibody**  
Catalog # ABO11887**Specification****Anti-FOXO3A Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">O43524</a>
Host	Rabbit
Reactivity	Human, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Forkhead box protein O3(FOXO3) detection. Tested with WB, IHC-P in Human;Rat.

**Reconstitution**

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

**Anti-FOXO3A Picoband Antibody - Additional Information**

**Gene ID** 2309

**Other Names**

Forkhead box protein O3, AF6q21 protein, Forkhead in rhabdomyosarcoma-like 1, FOXO3 ([HGNC:3821](http://www.genenames.org/cgi-bin/gene_symbol_report?hgnc_id=3821))

**Calculated MW**

71277 MW KDa

**Application Details**

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat<br>Western blot, 0.1-0.5 µg/ml, Human, Rat<br>

**Subcellular Localization**

Cytoplasm, cytosol. Nucleus. Translocates to the nucleus upon oxidative stress and in the absence of survival factors.

**Tissue Specificity**

Ubiquitous. .

**Protein Name**

Forkhead box protein O3

**Contents**

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na<sub>2</sub>HPO<sub>4</sub>, 0.05mg Na<sub>3</sub>.

**Immunogen**

E.coli-derived human FOXO3A recombinant protein (Position: Q471-G673). Human FOXO3A shares

97% amino acid (aa) sequence identity with mouse FOXO3A.

#### Purification

Immunogen affinity purified.

#### Cross Reactivity

No cross reactivity with other proteins

#### Storage

**At -20°C for one year. After r° Constitution, at 4°C for one month. It° Can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.**

#### Sequence Similarities

Contains 1 fork-head DNA-binding domain.

### Anti-FOXO3A Picoband Antibody - 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)). 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](http://www.uniprot.org/citations/21329882)). In response to metabolic stress, translocates into the mitochondria where it promotes mtDNA transcription (PubMed: [23283301](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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

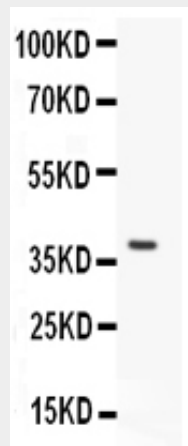
Ubiquitous..

#### Anti-FOXO3A Picoband Antibody - Protocols

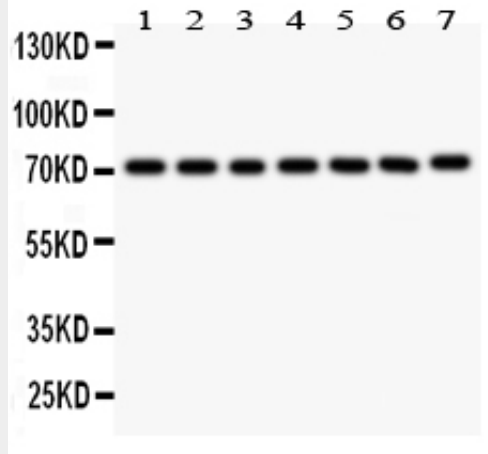
Provided below are standard protocols that you may find useful for product applications.

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

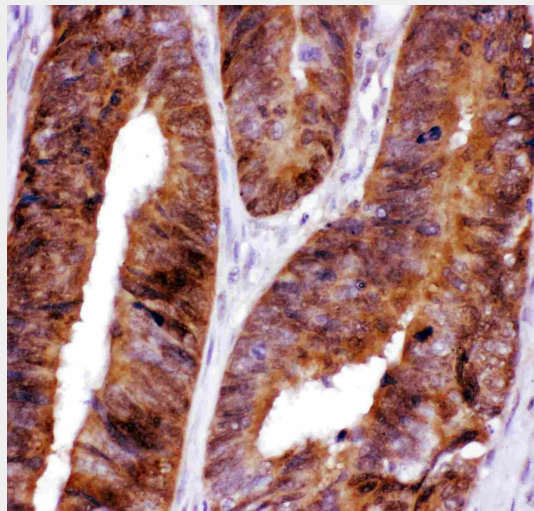
#### Anti-FOXO3A Picoband Antibody - Images



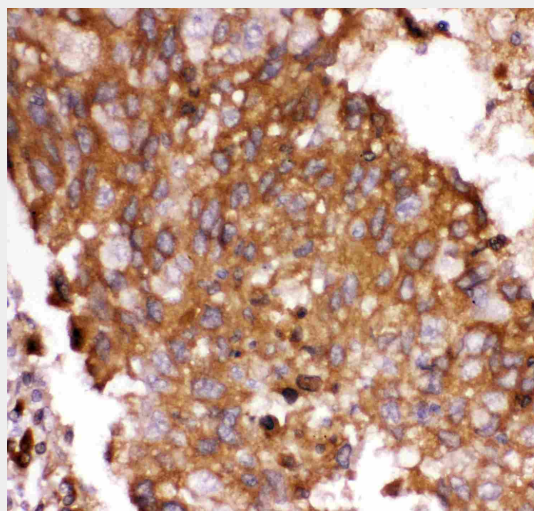
Anti- FOXO3A antibody, ABO11887, Western blotting All lanes: Anti FOXO3A (ABO11887) at 0.5ug/ml WB: Recombinant Human FOXO3A Protein 0.5ng Predicted bind size: 39KD Observed bind size: 39KD



Anti- FOXO3A antibody, ABO11887, Western blotting All lanes: Anti FOXO3A (ABO11887) at 0.5ug/ml  
 Lane 1: Rat Thymus Tissue Lysate at 50ug  
 Lane 2: NRK Whole Cell Lysate at 40ug  
 Lane 3: PC-12 Whole Cell Lysate at 40ug  
 Lane 4: HEPG2 Whole Cell Lysate at 40ug  
 Lane 5: HELA Whole Cell Lysate at 40ug  
 Lane 6: K562 Whole Cell Lysate at 40ug  
 Lane 7: JURKAT Whole Cell Lysate at 40ug  
 Predicted bind size: 71KD  
 Observed bind size: 71KD



Anti- FOXO3A antibody, ABO11887, IHC(P) IHC(P): Human Intestinal Cancer Tissue



Anti- FOXO3A antibody, ABO11887, IHC(P) IHC(P): Human Lung Cancer Tissue

## **Anti-FOXO3A Picoband Antibody - Background**

Forkhead box O3, also known as FKHRL1 or FOXO3a, is a human protein encoded by the FOXO3 gene. FOXO3 belongs to the O subclass of the forkhead family of transcription factors which are characterized by a distinct fork head DNA-binding domain. It is mapped to 6q21. This protein likely functions as a trigger for apoptosis through upregulation of genes necessary for cell death, such as Bim and PUMA, or downregulation of anti-apoptotic proteins such as FLIP. In mammals FOXO3 regulates the resistance of cells to stress by inducing DNA repair and thereby may also affect organismal life span. In addition, it is thought that FOXO3 is also involved in protection from oxidative stress by upregulating antioxidants such as catalase and MnSOD.