

**Anti-HIF-1-Alpha Picoband Antibody**  
Catalog # ABO11944**Specification****Anti-HIF-1-Alpha Picoband Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">Q16665</a>
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

**Description**

Rabbit IgG polyclonal antibody for Hypoxia-inducible factor 1-alpha(HIF1A) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

**Reconstitution**

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

**Anti-HIF-1-Alpha Picoband Antibody - Additional Information**

Gene ID 3091

**Other Names**

Hypoxia-inducible factor 1-alpha, HIF-1-alpha, HIF1-alpha, ARNT-interacting protein, Basic-helix-loop-helix-PAS protein MOP1, Class E basic helix-loop-helix protein 78, bHLHe78, Member of PAS protein 1, PAS domain-containing protein 8, HIF1A, BHLHE78, MOP1, PASD8

**Calculated MW**

92670 MW KDa

**Application Details**

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

**Subcellular Localization**

Cytoplasm. Nucleus. Nucleus speckle . Colocalizes with HIF3A in the nucleus and speckles (By similarity). Cytoplasmic in normoxia, nuclear translocation in response to hypoxia. Colocalizes with SUMO1 in the nucleus, under hypoxia. .

**Tissue Specificity**

Expressed in most tissues with highest levels in kidney and heart. Overexpressed in the majority of common human cancers and their metastases, due to the presence of intratumoral hypoxia and as a result of mutations in genes encoding oncoproteins and tumor suppressors. A higher level expression seen in pituitary tumors as compared to the pituitary gland. .

**Protein Name**

Hypoxia-inducible factor 1-alpha

**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>N.

### Immunogen

A synthetic peptide corresponding to a sequence at the C-terminal of human HIF-1-alpha (703-732aa EEELNPKILALQNAQRKRKMEHDGSLFQAV), different from the related mouse and rat sequences by three amino acids.

### Purification

Immunogen affinity purified.

### Cross Reactivity

No cross reactivity with other proteins

### Storage

**At -20°C for one year. After reconstitution, 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 bHLH (basic helix-loop-helix) domain.

## Anti-HIF-1-Alpha Picoband Antibody - Protein Information

**Name** HIF1A {ECO:0000303|PubMed:7539918, ECO:0000312|HGNC:HGNC:4910}

### Function

Functions as a master transcriptional regulator of the adaptive response to hypoxia (PubMed:<a href="http://www.uniprot.org/citations/11292861" target="\_blank">11292861</a>, PubMed:<a href="http://www.uniprot.org/citations/11566883" target="\_blank">11566883</a>, PubMed:<a href="http://www.uniprot.org/citations/15465032" target="\_blank">15465032</a>, PubMed:<a href="http://www.uniprot.org/citations/16973622" target="\_blank">16973622</a>, PubMed:<a href="http://www.uniprot.org/citations/17610843" target="\_blank">17610843</a>, PubMed:<a href="http://www.uniprot.org/citations/18658046" target="\_blank">18658046</a>, PubMed:<a href="http://www.uniprot.org/citations/20624928" target="\_blank">20624928</a>, PubMed:<a href="http://www.uniprot.org/citations/22009797" target="\_blank">22009797</a>, PubMed:<a href="http://www.uniprot.org/citations/30125331" target="\_blank">30125331</a>, PubMed:<a href="http://www.uniprot.org/citations/9887100" target="\_blank">9887100</a>). Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia (PubMed:<a href="http://www.uniprot.org/citations/11292861" target="\_blank">11292861</a>, PubMed:<a href="http://www.uniprot.org/citations/11566883" target="\_blank">11566883</a>, PubMed:<a href="http://www.uniprot.org/citations/15465032" target="\_blank">15465032</a>, PubMed:<a href="http://www.uniprot.org/citations/16973622" target="\_blank">16973622</a>, PubMed:<a href="http://www.uniprot.org/citations/17610843" target="\_blank">17610843</a>, PubMed:<a href="http://www.uniprot.org/citations/20624928" target="\_blank">20624928</a>, PubMed:<a href="http://www.uniprot.org/citations/22009797" target="\_blank">22009797</a>, PubMed:<a href="http://www.uniprot.org/citations/30125331" target="\_blank">30125331</a>, PubMed:<a href="http://www.uniprot.org/citations/9887100" target="\_blank">9887100</a>). Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease (PubMed:<a href="http://www.uniprot.org/citations/22009797" target="\_blank">22009797</a>). Heterodimerizes with ARNT; heterodimer binds to core DNA sequence 5'-TACGTG-3' within the hypoxia response element (HRE) of target gene promoters (By similarity). Activation requires recruitment of transcriptional coactivators such as CREBBP and EP300 (PubMed:<a href="http://www.uniprot.org/citations/16543236" target="\_blank">16543236</a>)

target="\_blank">16543236</a>, PubMed:<a href="http://www.uniprot.org/citations/9887100" target="\_blank">9887100</a>). Activity is enhanced by interaction with NCOA1 and/or NCOA2 (PubMed:<a href="http://www.uniprot.org/citations/10594042" target="\_blank">10594042</a>). Interaction with redox regulatory protein APEX1 seems to activate CTAD and potentiates activation by NCOA1 and CREBBP (PubMed:<a href="http://www.uniprot.org/citations/10202154" target="\_blank">10202154</a>, PubMed:<a href="http://www.uniprot.org/citations/10594042" target="\_blank">10594042</a>). Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia (PubMed:<a href="http://www.uniprot.org/citations/19528298" target="\_blank">19528298</a>).

#### Cellular Location

Cytoplasm. Nucleus. Nucleus speckle {ECO:0000250|UniProtKB:Q61221}. Note=Colocalizes with HIF3A in the nucleus and speckles (By similarity). Cytoplasmic in normoxia, nuclear translocation in response to hypoxia (PubMed:9822602) {ECO:0000250|UniProtKB:Q61221, ECO:0000269|PubMed:9822602}

#### Tissue Location

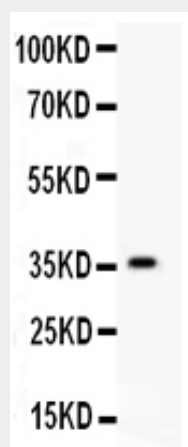
Expressed in most tissues with highest levels in kidney and heart. Overexpressed in the majority of common human cancers and their metastases, due to the presence of intratumoral hypoxia and as a result of mutations in genes encoding oncoproteins and tumor suppressors. A higher level expression seen in pituitary tumors as compared to the pituitary gland.

#### Anti-HIF-1-Alpha 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](#)

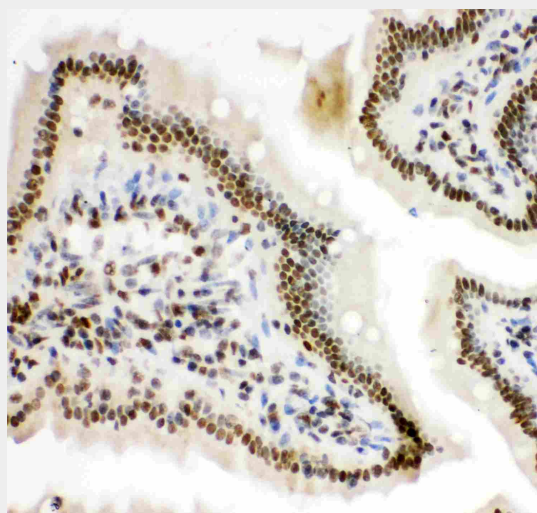
#### Anti-HIF-1-Alpha Picoband Antibody - Images



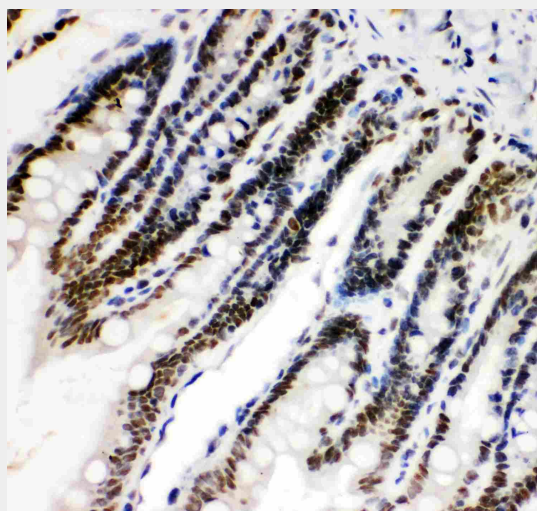
Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blotting All lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/ml WB: Recombinant Human HIF 1 alpha Protein 0.5ng Predicted bind size: 36KD Observed bind size: 36KD



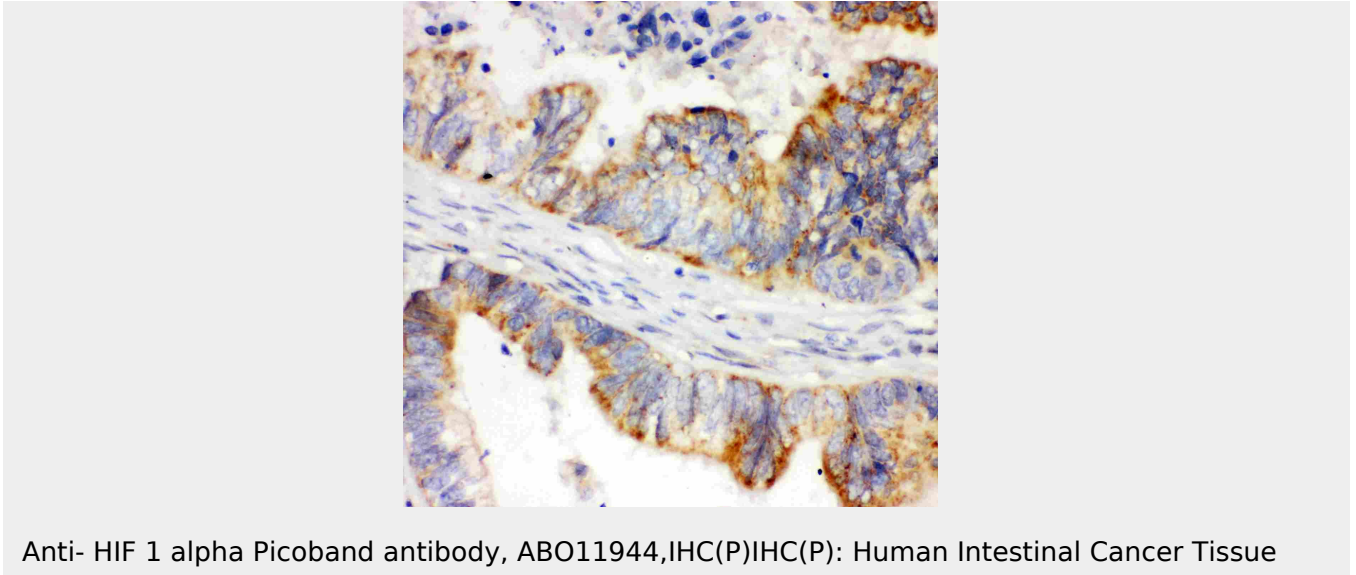
Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blotting  
All lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/ml  
Lane 1: HELA Whole Cell Lysate at 40ug  
Lane 2: SHG Whole Cell Lysate at 40ug  
Lane 3: HEPA Whole Cell Lysate at 40ug  
Predicted bind size: 93KD  
Observed bind size: 120KD



Anti- HIF 1 alpha Picoband antibody, ABO11944,IHC(P)  
IHC(P): Mouse Intestine Tissue



Anti- HIF 1 alpha Picoband antibody, ABO11944,IHC(P)  
IHC(P): Rat Intestine Tissue



### **Anti-HIF-1-Alpha Picoband Antibody - Background**

HIF-1 $\alpha$  (Hypoxia-inducible factor 1 $\alpha$ , HIF1A) is a transcription factor that mediates cellular and systemic homeostatic responses to reduced O<sub>2</sub> availability in mammals, including angiogenesis, erythropoiesis and glycolysis. This gene was mapped to 14q21-q24. HIF-1 $\alpha$  transactivate genes required for energy metabolism and tissue perfusion and is necessary for embryonic development and tumor explant growth. HIF-1 $\alpha$  is over expressed during carcinogenesis, myocardial infarction and wound healing. It is crucial for the cellular response to hypoxia and is frequently over expressed in human cancers, resulting in the activation of genes essential for cell survival. HIF-1 $\alpha$  regulates the survival and function in the inflammatory microenvironment directly. It is a transcription factor that plays a pivotal role in cellular adaptation to changes in oxygen availability.