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# Anti-HIF-1-Alpha Picoband Antibody

Catalog # ABO11944

## Product Information

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| **Application** | WB, IHC-P |
| **Primary Accession** | Q16665 |
| **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. |

## Additional Information

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| **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 |
| **Application Details** | Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, Mouse, Rat, By Heat<br>Western blot, 0.1-0.5 □g/ml, Human, Mouse |
| **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. . |
| **Source** | Eukaryota |
| **Protein Name** | Hypoxia-inducible factor 1-alpha |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3. |
| **Immunogen** | A synthetic peptide corresponding to a sequence at the C-terminal of human |

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| | 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 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 bHLH (basic helix-loop-helix) domain. |

## Protein Information

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| **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:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:18658046, PubMed:20624928, PubMed:22009797, PubMed:30125331, PubMed:9887100). 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:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:20624928, PubMed:22009797, PubMed:30125331, PubMed:9887100). Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease (PubMed:22009797). 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:16543236, PubMed:9887100). Activity is enhanced by interaction with NCOA1 and/or NCOA2 (PubMed:10594042). Interaction with redox regulatory protein APEX1 seems to activate CTAD and potentiates activation by NCOA1 and CREBBP (PubMed:10202154, PubMed:10594042). Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia (PubMed:19528298). |
| **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. |

## Background

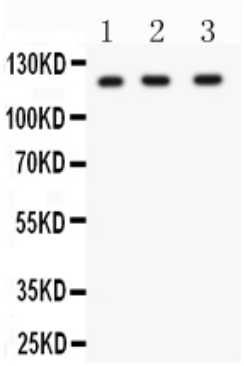
HIF-1 □± (Hypoxia-inducible factor 1 □±, HIF1A) is a transcription factor that mediates cellular and systemic homeostatic responses to reduced O2 availability in mammals, including angiogenesis, erythropoiesis and glycolysis. This gene was mapped to 14q21-q24. HIF-1 □± transactivate genes required for energy metabolism and tissue perfusion and is necessary for embryonic development and tumor explant growth.

HIF-1alpha 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 □± 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.

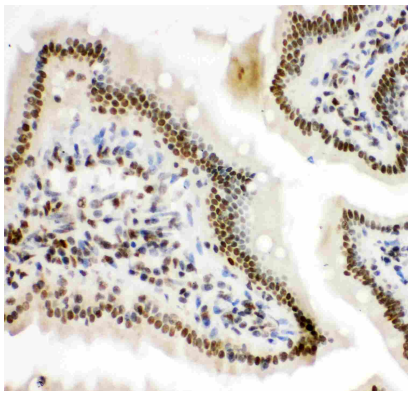
## Images



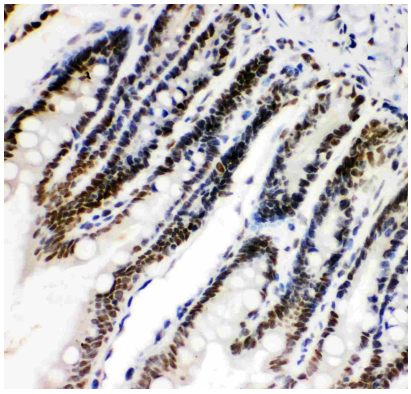

Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blottingAll lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/mlWB: Recombinant Human HIF 1 alpha Protein 0.5ngPredicted bind size: 36KDObserved bind size: 36KD



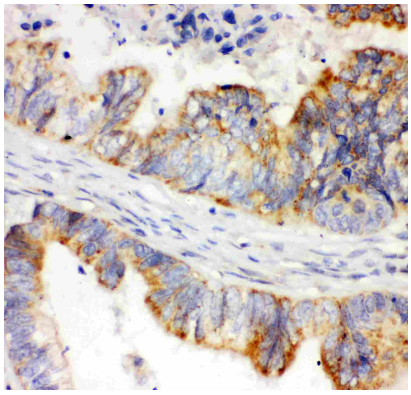

Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blottingAll lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/mlLane 1: HELA Whole Cell Lysate at 40ugLane 2: SHG Whole Cell Lysate at 40ugLane 3: HEPA Whole Cell Lysate at 40ugPredicted bind size: 93KDObserved bind size: 120KD



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, ABO11944,IHC(P)IHC(P): Human Intestinal Cancer Tissue

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.