

Anti-HIF-1-Alpha Picoband Antibody

Catalog # ABO11944

Product Information

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

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 µg/ml, Human, Mouse, Rat, By Heat Western blot, 0.1-0.5 µg/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

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

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

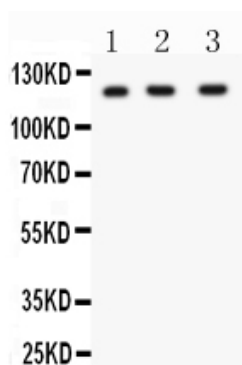
HIF-1 α (Hypoxia-inducible factor 1 α , HIF1A) is a transcription factor that mediates cellular and systemic homeostatic responses to reduced O₂ availability in mammals, including angiogenesis, erythropoiesis and glycolysis. This gene was mapped to 14q21-q24. HIF-1 α transactivate genes required for 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 α 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.

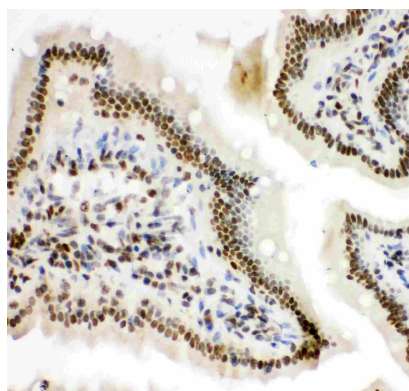
Images



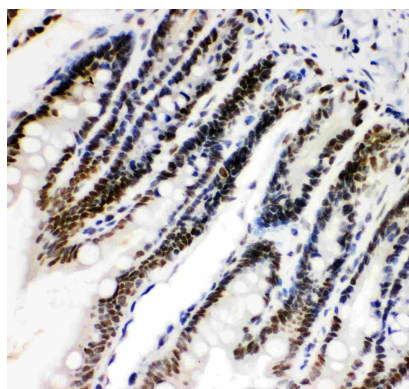
Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blotting
All lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/ml
WB: Recombinant Human HIF 1 alpha Protein 0.5ng
Predicted bind size: 36KD
Observed bind size: 36KD



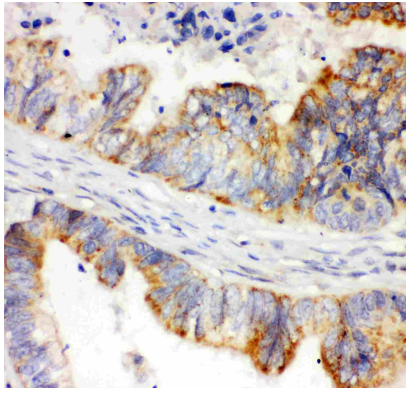
Anti- HIF 1 alpha Picoband antibody, ABO11944, Western blotting
All lanes: Anti HIF 1 alpha (ABO11944) at 0.5ug/ml
Lane 1: HELA Whole Cell Lysate at 40ug
Lane 2: SHG Whole Cell Lysate at 40ug
Lane 3: HEPA Whole Cell Lysate at 40ug
Predicted bind size: 93KD
Observed bind size: 120KD



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,
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'.