

Anti-HIF-1-Alpha Antibody
Catalog # ABO10528**Specification**

Anti-HIF-1-Alpha Antibody - Product Information

Application	WB
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.

Anti-HIF-1-Alpha 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, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, 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. .

Protein Name

Hypoxia-inducible factor 1-alpha(HIF-1-alpha/HIF1-alpha)

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human HIF-1-alpha(8-21aa NDKKKISSERRKEK), different from the related rat and mouse sequences by two amino acids.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After r^oConstitution, at 4°C for one month. It^oCan 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 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:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:18658046, PubMed:20624928, PubMed:22009797, PubMed:9887100, PubMed:30125331). 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:9887100, PubMed:30125331). 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:9887100, PubMed:16543236).

target="_blank">16543236). 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

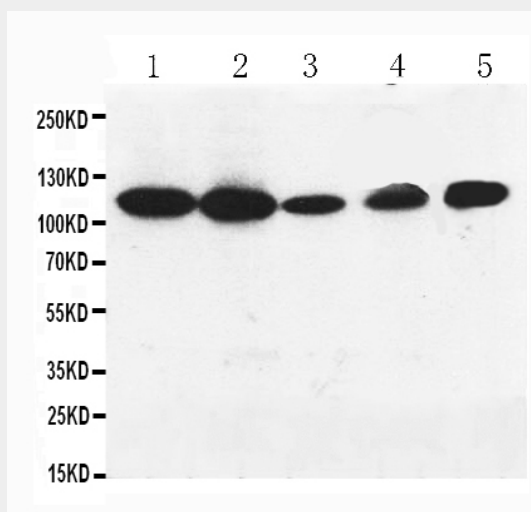
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Anti-HIF-1-Alpha Antibody - Protocols

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 Antibody - Images



Anti-HIF-1-alpha antibody, ABO10528, Western blotting
Lane 1: MCF-7 Cell Lysate
Lane 2: HELA Cell Lysate
Lane 3: JURKAT Cell Lysate
Lane 4: SMMC Cell Lysate
Lane 5: HT1080 Cell Lysate

Anti-HIF-1-Alpha Antibody - Background

HIF-1 alpha(Hypoxia-inducible factor 1 alpha,HIF1A) is a transcription factor that mediates cellular and systemic homeostatic responses to reduced 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.