

HIF-1-alpha Antibody

Rabbit mAb Catalog # AP93192

Product Information

Application WB, IF, ICC Primary Accession Q16665

Reactivity Rat, Human, Mouse

Clonality Monoclonal

Other Names HIF1; MOP1; PASD8; bHLHe78; HIF-1alpha; HIF1-ALPHA; HIF1A

IsotypeRabbit IgGHostRabbitCalculated MW92670

Additional Information

Dilution WB 1:500~1:2000 ICC/IF 1:50~1:200

Purification Affinity-chromatography

Immunogen A synthesized peptide derived from human HIF-1-alpha

Description Functions as a master transcriptional regulator of the adaptive response to

hypoxia. Under hypoxic conditions activates the transcription of over 40 genes, including, erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. Binds to core DNA sequence 5'-[AG]CGTG-3' within the hypoxia response element (HRE) of target gene promoters. Activation requires recruitment of transcriptional coactivators such as CREBPB and EP300. Activity is enhanced by interaction with both, NCOA1 or NCOA2. Interaction with redox regulatory protein APEX seems to

activate CTAD and potentiates activation by NCOA1 and CREBBP.

Storage Condition and Buffer Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium

azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term.

Avoid freeze / thaw cycle.

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:<u>11292861</u>, PubMed:<u>11566883</u>, PubMed:<u>15465032</u>,

PubMed:<u>16973622</u>, PubMed:<u>17610843</u>, PubMed:<u>18658046</u>, PubMed:<u>20024928</u>, PubMed:<u>2009797</u>, PubMed:<u>30125331</u>,

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).

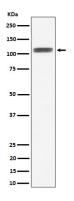
Cellular Location

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.

Images



Western blot analysis of HIF-1-alpha expression in HeLa treated with CoCl2 cell lysate.

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