

Anti-HIF-1-alpha, Rabbit Monoclonal Antibody

Rabbit Monoclonal Antibody

Catalog # ABV11822

Product Information

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|-------------------|------------------------|
| Application | WB, IHC |
| Primary Accession | Q16665 |
| Reactivity | Human |
| Host | Rabbit |
| Clonality | Monoclonal |
| Isotype | Rabbit IgG |
| Calculated MW | 92670 |

Additional Information

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|--------------------------|--|
| Gene ID | 3091 |
| Positive Control | WB: Jurkat cell lystae; IHC: human breast cancer tissue |
| Application & Usage | IHC: 1:500 -1:1000 dilution; WB: 1:1000 - 1:2000 dilution. |
| Alias Symbol | HIF1A |
| Other Names | ARNT-interacting protein, Basic-helix-loop-helix-PAS protein MOP1, Class E basic helix-loop-helix protein 78, Hypoxia-inducible factor 1-alpha, bHLHe78, Member of PAS protein 1 |
| Appearance | Colorless liquid |
| Formulation | In 50% Glycerol/PBS with 1% BSA and 0.09% sodium azide |
| Reconstitution & Storage | -20 °C |
| Background Descriptions | |
| Precautions | Anti-HIF-1-alpha, Rabbit Monoclonal Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

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}

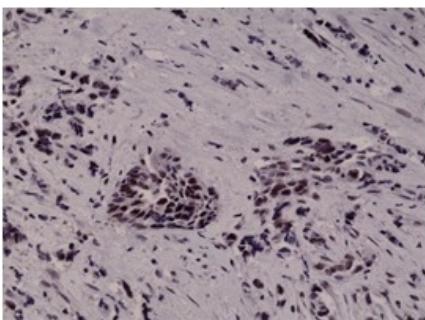
Tissue Location

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

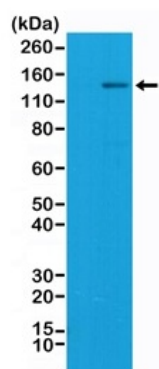
Functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, and other genes whose protein products 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 CREBBP 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. Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia.

Images



Immunohistochemical staining of formalin fixed and paraffin embedded human breast cancer tissue sections using anti-HIF-1-alpha monoclonal antibody at 1:1000 dilution.

Western blot of Jurkat cell lysate, treated or untreated with Cobalt(II) chloride(CoCl₂), using anti-HIF-1-alpha monoclonal antibody at 1:1000 dilution, showed that HIF-1-alpha (~120kDa) expression was induced by CoCl₂



in Jurkat cells.

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