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Anti-HIF-1-alpha, Rabbit Monoclonal Antibody

Rabbit Monoclonal Antibody
Catalog # ABV11822

Product Information

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

Additional Information

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

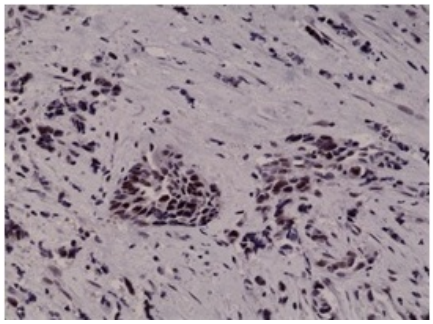
Name	HIF1A {ECO:0000303|PubMed:7539918, ECO:0000312|HGNC:HGNC:4910}
Function	Functions as a master transcriptional regulator of the adaptive response to hypoxia (PubMed:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:18658046, PubMed:20624928, PubMed:22009797, PubMed:30125331, 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

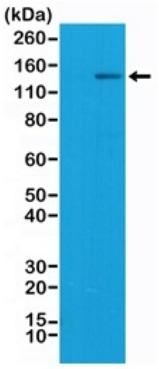
Functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, and other genes whose protein products 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 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. 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'.