HIF1A Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	HIF1A, Polyclonal Antibody
Full Product Name	HIF1A Rabbit pAb
Product Gene Name	anti-HIF1A antibody
Product Synonym Names	HIF1; MOP1; PASD8; HIF-1A; bHLHe78; HIF-1alpha; HIF1-ALPHA; HIF-1-alpha
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse
Form/Format	PBS with 0.02% Sodium Azide, 50% Glycerol, pH 7.3.
Purity/Purification	Affinity Purified
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
Molecular Weight	105kDa
OMIM	603348
3D Structure	ModBase 3D Structure for Q16665
Immunogen	A synthetic peptide of human HIF1A
Cellular Localization	Cytoplasm, Nucleus
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-HIF1A antibody	Western Blot (WB), Immunofluorescence (IF)
Application Notes for anti-HIF1A antibody	WB: 1:500-1:2000 IF: 1:50-1:200
Related Product Information for anti-HIF1A antibody	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.
Other Notes	Small volumes of anti-HIF1A antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for HIF1A purchase	MBS8546963 is an antibody targeting HIF1A. Also known as HIF1A Rabbit pAb. Reactive in Human, Mouse. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HIF1A. It may not necessarily be applicable to this product.

NCBI GI #	4504385
NCBI GeneID	3091
NCBI Accession #	NP_001521.1
UniProt Primary Accession #	Q16665
UniProt Related Accession #	Q16665
GenBank Nucleotide #	NP_001521.1
NCBI Official Full Name	hypoxia-inducible factor 1-alpha isoform 1
NCBI Official Synonym Full Names	hypoxia inducible factor 1 subunit alpha
NCBI Official Symbol	HIF1A
NCBI Official Synonym Symbols	HIF1; MOP1; PASD8; HIF-1A; bHLHe78; HIF-1alpha; HIF1-ALPHA; HIF-1-alpha
UniProt Protein Name	Hypoxia-inducible factor 1-alpha
UniProt Synonym Protein Names	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
Protein Family	Hypoxia-inducible factor
UniProt Gene Name	HIF1A
UniProt Synonym Gene Names	BHLHE78; MOP1; PASD8; HIF-1-alpha; HIF1-alpha; bHLHe78
UniProt Entry Name	HIF1A_HUMAN
NCBI Protein Information	hypoxia-inducible factor 1-alpha
NCBI Summary for HIF1A	This gene encodes the alpha subunit of transcription factor hypoxia-inducible factor-1 (HIF-1), which is a heterodimer composed of an alpha and a beta subunit. HIF-1 functions as a master regulator of cellular and systemic homeostatic response to hypoxia by activating transcription of many genes, including those involved in energy metabolism, angiogenesis, apoptosis, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. HIF-1 thus plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. [provided by RefSeq, Jul 2011]

UniProt Comments for HIF1A	HIF1A: 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. Interacts with the HIF1A beta/ARNT subunit; heterodimerization is required for DNA binding. Interacts with COPS5; the interaction increases the transcriptional activity of HIF1A through increased stability. Interacts with EP300 (via TAZ-type 1 domains); the interaction is stimulated in response to hypoxia and inhibited by CITED2. Interacts with CREBBP (via TAZ-type 1 domains). Interacts with NCOA1, NCOA2, APEX and HSP90. Interacts (hydroxylated within the ODD domain) with VHLL (via beta domain); the interaction, leads to polyubiquitination and subsequent HIF1A proteasomal degradation. During hypoxia, sumoylated HIF1A also binds VHL; the interaction promotes the ubiquitination of HIF1A. Interacts with SENP1; the interaction desumoylates HIF1A resulting in stabilization and activation of transcription. Interacts (Via the ODD domain) with ARD1A; the interaction appears not to acetylate HIF1A nor have any affect on protein stability, during hypoxia. Interacts with RWDD3; the interaction enhances HIF1A sumoylation. Interacts with TSGA10. Interacts with RORA (via the DNA binding domain); the interaction enhances HIF1A transcription under hypoxia through increasing protein stability. Interaction with PSMA7 inhibits the transactivation activity of HIF1A under both normoxic and hypoxia- mimicking conditions. Interacts with USP20. Interacts with RACK1; promotes HIF1A ubiquitination and proteasome- mediated degradation. Interacts (via N-terminus) with USP19. Under reduced oxygen tension. Induced also by various receptor-mediated factors such as growth factors, cytokines, and circulatory factors such as PDGF, EGF, FGF2, IGF2, TGFB1, HGF, TNF, IL1B, angiotensin-2 and thrombin. However, this induction is less intense than that stimulated by hypoxia. Repressed by HIPK2 and LIMD1. 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. 2 isoforms of the human protein are produced by alternative splicing. Protein type: Transcription factor; DNA-binding; Autophagy Chromosomal Location of Human Ortholog: 14q23.2 Cellular Component: nucleoplasm; transcription factor complex; cytoplasm; nucleolus; nuclear speck; nucleus; cytosol Molecular Function: RNA polymerase II transcription factor activity, enhancer binding; histone deacetylase binding; Hsp90 protein binding; protein kinase binding; transcription factor binding; histone acetyltransferase binding; signal transducer activity; protein binding; enzyme binding; protein heterodimerization activity; sequence-specific DNA binding; ubiquitin protein ligase binding; transcription factor activity; nuclear hormone receptor binding Biological Process: lactation; oxygen homeostasis; embryonic placenta development; response to muscle activity; cellular iron ion homeostasis; positive regulation of transcription, DNA-dependent; signal transduction; glucose homeostasis; positive regulation of vascular endothelial growth factor receptor signaling pathway; muscle maintenance; negative regulation of bone mineralization; connective tissue replacement during inflammatory response; elastin metabolic process; axon transport of mitochondrion; regulation of transcription, DNA-dependent; visual learning; heart looping; angiogenesis; regulation of transcription from RNA polymerase II promoter in response to oxidative stress; neural crest cell migration; negative regulation of growth; hemoglobin biosynthetic process; positive regulation of neuroblast proliferation; regulation of transforming growth factor-beta2 production; Notch signaling pathway; negative regulation of TOR signaling pathway; collagen metabolic process; embryonic hemopoiesis; positive regulation of nitric-oxide synthase activity; positive regulation of erythrocyte differentiation; B-1 B cell homeostasis; digestive tract morphogenesis; mRNA transcription from RNA polymerase II promoter; positive regulation of chemokine production; positive regulation of angiogenesis; neural fold elevation formation; regulation of gene expression; cartilage development; positive regulation of hormone biosynthetic process; positive regulation of glycolysis; lactate metabolic process; response to hypoxia; epithelial to mesenchymal transition; positive regulation of endothelial cell proliferation; positive regulation of transcription from RNA polymerase II promoter; cerebral cortex development
Research Articles on HIF1A	**1.** IDH2 promotes the Warburg effect and lung cancer cell growth, which is mediated through HIF1alpha activation followed by decreased alpha-KG.

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