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HIF-1a

Rabbit Monoclonal antibody(Mab)
Catalog # AD80609

Product Information

Application IHC-P
Primary Accession Q16665
Reactivity Human
Host Rabbit
Clonality Monoclonal
Clone Names 840G2B6
Calculated MW 92670

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 {ECO:0000303|PubMed:7539918,

ECO:0000312 | HGNC:HGNC:4910}

Dilution IHC-P~~Ready-to-use

Storage Maintain refrigerated at 2-8°C.

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:<u>16973622</u>, PubMed:<u>17610843</u>, PubMed:<u>18658046</u>, PubMed:<u>20024928</u>, PubMed:<u>22009797</u>, PubMed:<u>30125331</u>,

PubMed: 20624928, PubMed: 22009797, PubMed: 30125331, PubMed: 9887100). Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietic glucose transporters, glycolytic

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:<u>22009797</u>, PubMed:<u>30125331</u>, PubMed:<u>9887100</u>). 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

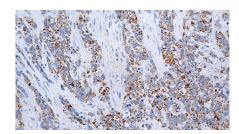
Cytoplasm. Nucleus. Nucleus speckle {ECO:0000250|UniProtKB:Q61221}. Note=Colocalizes with HIF3A in the nucleus and speckles (By similarity). Cytoplasmic in normoxia, nuclear translocation in response to hypoxia (PubMed:9822602) {ECO:0000250|UniProtKB:Q61221,

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



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