

# HIF1Alpha Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7759C

## Product Information

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Application	WB, IHC-P, IF, FC, E
Primary Accession	<a href="#">Q16665</a>
Other Accession	<a href="#">Q35800</a> , <a href="#">Q61221</a> , <a href="#">Q9XTA5</a>
Reactivity	Human, Mouse
Predicted	Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14548
Calculated MW	92670
Antigen Region	519-547

## Additional Information

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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, BHLHE78, MOP1, PASD8
Target/Specificity	This HIF1Alpha antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 519-547 amino acids from the Central region of human HIF1Alpha.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	HIF1Alpha Antibody (Center) 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}
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<b>Function</b>	<p>Functions as a master transcriptional regulator of the adaptive response to hypoxia (PubMed:<a href="#">11292861</a>, PubMed:<a href="#">11566883</a>, PubMed:<a href="#">15465032</a>, PubMed:<a href="#">16973622</a>, PubMed:<a href="#">17610843</a>, PubMed:<a href="#">18658046</a>, PubMed:<a href="#">20624928</a>, PubMed:<a href="#">22009797</a>, PubMed:<a href="#">30125331</a>, PubMed:<a href="#">9887100</a>). 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:<a href="#">11292861</a>, PubMed:<a href="#">11566883</a>, PubMed:<a href="#">15465032</a>, PubMed:<a href="#">16973622</a>, PubMed:<a href="#">17610843</a>, PubMed:<a href="#">20624928</a>, PubMed:<a href="#">22009797</a>, PubMed:<a href="#">30125331</a>, PubMed:<a href="#">9887100</a>). Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease (PubMed:<a href="#">22009797</a>). 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:<a href="#">16543236</a>, PubMed:<a href="#">9887100</a>). Activity is enhanced by interaction with NCOA1 and/or NCOA2 (PubMed:<a href="#">10594042</a>). Interaction with redox regulatory protein APEX1 seems to activate CTAD and potentiates activation by NCOA1 and CREBBP (PubMed:<a href="#">10202154</a>, PubMed:<a href="#">10594042</a>). Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia (PubMed:<a href="#">19528298</a>).</p>
<b>Cellular Location</b>	<p>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}</p>
<b>Tissue Location</b>	<p>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.</p>

## Background

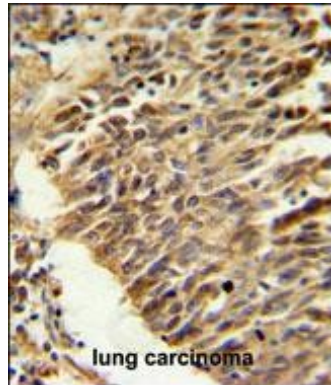
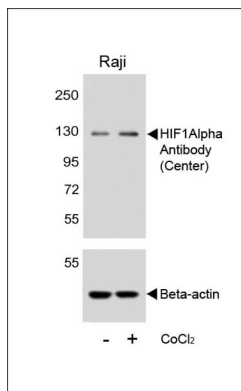
Hypoxia-inducible factor-1 (HIF1) is a transcription factor found in mammalian cells cultured under reduced oxygen tension that plays an essential role in cellular and systemic homeostatic responses to hypoxia. HIF1 is a heterodimer composed of an alpha subunit and a beta subunit. The beta subunit has been identified as the aryl hydrocarbon receptor nuclear translocator (ARNT). This gene encodes the alpha subunit of HIF-1. Overexpression of a natural antisense transcript (aHIF) of this gene has been shown to be associated with nonpapillary renal carcinomas.

## References

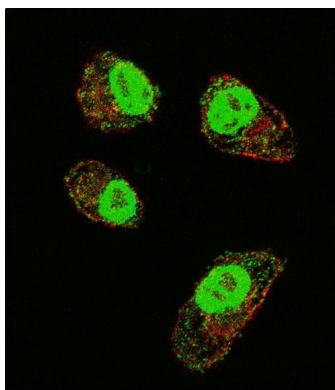
Lee, M.N., et al. J. Natl. Cancer Inst. 102(6):426-442(2010) Mayer, A., et al. Adv. Exp. Med. Biol. 662, 399-405 (2010) : Brouwer, E., et al. Clin. Exp. Rheumatol. 27(6):945-951(2009)

## Images

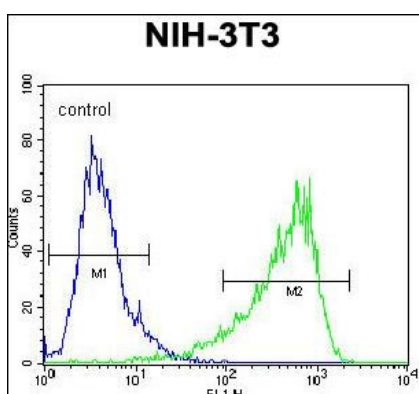
Western blot analysis of lysates from Raji cell line, untreated or treated with CoCl<sub>2</sub>(0. 1mM), using HIF1Alpha Antibody (Center)(Cat. #AP7759c)(upper) or Beta-actin (lower).



HIF1Alpha Antibody (Center)(Cat. #AP7759c) IHC analysis in formalin fixed and paraffin embedded lung carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the HIF1Alpha Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



Confocal immunofluorescent analysis of HIF1Alpha Antibody (Center)(Cat#AP7759c) with MDA-MB231 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).Actin filaments have been labeled with Alexa Fluor 555 phalloidin (red).



HIF1Alpha Antibody (Center) (Cat. #AP7759c) flow cytometric analysis of NIH-3T3 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

## Citations

- [Inhibition of deubiquitination by PR-619 induces apoptosis and autophagy via ubi-protein aggregation-activated ER stress in oesophageal squamous cell carcinoma.](#)
- [AT-533, a novel Hsp90 inhibitor, inhibits breast cancer growth and HIF-1 \$\alpha\$ /VEGF/VEGFR-2-mediated angiogenesis in vitro and in vivo](#)
- [Targeting the overexpressed USP7 inhibits esophageal squamous cell carcinoma cell growth by inducing NOXA-Mediated Apoptosis.](#)

- [Mitochondrial Dysfunctions Regulated Radioresistance through Mitochondria-to-Nucleus Retrograde Signaling Pathway of NF- \$\kappa\$ B/PI3K/AKT2/mTOR.](#)
- [Protective effect of salidroside against bone loss via hypoxia-inducible factor-1 \$\alpha\$  pathway-induced angiogenesis.](#)
- [Hypoxia-inducible factor-1 \$\alpha\$  and MAPK co-regulate activation of hepatic stellate cells upon hypoxia stimulation.](#)

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