


## Product datasheet

### Anti-HIF-1 alpha antibody ab114977

★★★★★ [7 Abreviews](#) [17 References](#) [2 Images](#)

#### Overview

<b>Product name</b>	Anti-HIF-1 alpha antibody
<b>Description</b>	Rabbit polyclonal to HIF-1 alpha
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, ICC
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human <b>Predicted to work with:</b> Rat, Rabbit, Goat, Horse, Chicken, Guinea pig, Cow, Dog, Turkey, Pig, Carp, Chimpanzee, Zebrafish, Rhesus monkey, Gorilla, Orangutan 
<b>Immunogen</b>	Synthetic peptide corresponding to Human HIF-1 alpha aa 750-850 (C terminal). Database link: <a href="#">Q16665</a>
<b>Positive control</b>	IHC-P: Mouse squamous cell carcinoma tissue; ICC: HeLa cells.
<b>General notes</b>	Concentration is optimized for IHC and not determined.  The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.  If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 6.8 Preservative: 0.09% Sodium azide Constituents: 99% Tris buffered saline, 0.1% BSA
<b>Purity</b>	Protein A purified
<b>Purification notes</b>	ab114977 was affinity purified using an epitope specific to HIF-1-alpha immobilized on solid support.

<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab114977 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★☆ (2)	1/100 - 1/500. Epitope exposure is recommended. Epitope exposure with citrate or tris-EDTA pH9.0 buffer will enhance staining.
ICC		1/100 - 1/500.

## Target

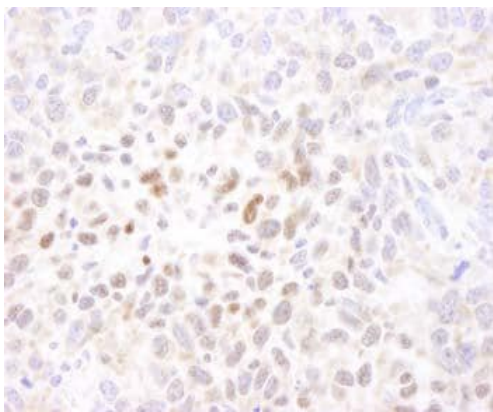
<b>Function</b>	Functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions activates the transcription of over 40 genes, including, erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, and other genes whose protein 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.
<b>Tissue specificity</b>	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.
<b>Sequence similarities</b>	Contains 1 basic helix-loop-helix (bHLH) domain. Contains 1 PAC (PAS-associated C-terminal) domain. Contains 2 PAS (PER-ARNT-SIM) domains.
<b>Domain</b>	Contains two independent C-terminal transactivation domains, NTAD and CTAD, which function synergistically. Their transcriptional activity is repressed by an intervening inhibitory domain (ID).
<b>Post-translational modifications</b>	In normoxia, is hydroxylated on Pro-402 and Pro-564 in the oxygen-dependent degradation domain (ODD) by EGLN1/PHD1 and EGLN2/PHD2. EGLN3/PHD3 has also been shown to hydroxylate Pro-564. The hydroxylated prolines promote interaction with VHL, initiating rapid ubiquitination and subsequent proteasomal degradation. Deubiquitinated by USP20. Under hypoxia, proline hydroxylation is impaired and ubiquitination is attenuated, resulting in stabilization. In normoxia, is hydroxylated on Asn-803 by HIF1AN, thus abrogating interaction with CREBBP and EP300 and preventing transcriptional activation. This hydroxylation is inhibited by the Cu/Zn-chelator, Clioquinol. S-nitrosylation of Cys-800 may be responsible for increased recruitment of p300 coactivator necessary for transcriptional activity of HIF-1 complex. Requires phosphorylation for DNA-binding.

Sumoylated; by SUMO1 under hypoxia. Sumoylation is enhanced through interaction with RWDD3. Desumoylation by SENP1 leads to increased HIF1A stability and transcriptional activity. Ubiquitinated; in normoxia, following hydroxylation and interaction with VHL. Lys-532 appears to be the principal site of ubiquitination. Clioquinol, the Cu/Zn-chelator, inhibits ubiquitination through preventing hydroxylation at Asn-803. The iron and 2-oxoglutarate dependent 3-hydroxylation of asparagine is (S) stereospecific within HIF CTAD domains.

#### Cellular localization

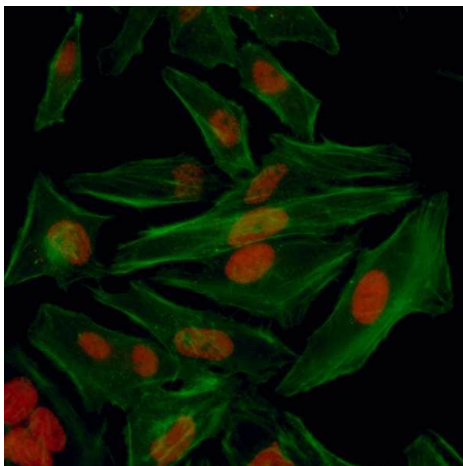
Cytoplasm. Nucleus. Cytoplasmic in normoxia, nuclear translocation in response to hypoxia. Colocalizes with SUMO1 in the nucleus, under hypoxia.

#### Images



ab114977 at 1:250 dilution staining HIF-1-alpha in Formalin-fixed, Paraffin-embedded Mouse squamous cell carcinoma tissue by Immunohistochemistry. Detection: DAB staining.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF-1 alpha antibody (ab114977)



Immunocytochemistry analysis of formaldehyde-fixed asynchronous hypoxic HeLa (Human cervix adenocarcinoma epithelial cell line) cells labeling HIF-1 alpha with ab114977 at a 1/100 dilution.

Immunocytochemistry - Anti-HIF-1 alpha antibody (ab114977)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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