

## Product datasheet

# Anti-HIF-1 alpha antibody [H1alpha67] - CHIP Grade ab463

★★★★★ 7 Abreviews 44 References 画像数 6

### 製品の概要

<b>製品名</b>	Anti-HIF-1 alpha antibody [H1alpha67] - CHIP Grade
<b>製品の詳細</b>	Mouse monoclonal [H1alpha67] to HIF-1 alpha - CHIP Grade
<b>由来種</b>	Mouse
<b>アプリケーション</b>	<b>適用あり:</b> ICC/IF, IP, WB, IHC-P, ELISA, ChIP, Flow Cyt
<b>種交差性</b>	<b>交差種:</b> Mouse, Rat, Sheep, Cow, Dog, Human, Pig, Bird, Ferret, Monkey
<b>免疫原</b>	Fusion protein corresponding to Human HIF-1 alpha aa 432-528. Database link: <a href="#">Q16665</a>
<b>ポジティブ・コントロール</b>	Glioblastoma multiforme.
<b>特記事項</b>	Under normoxic conditions HIF-1 alpha has a short half-life. It is largely undetectable in cells or tissues grown under normoxic conditions. It is stabilized only at O2 concentrations below 5% and upon stabilization under hypoxic conditions HIF-1 translocates to the nucleus. Therefore we recommend western blots using nuclear extracts and running Hypoxia treated samples as positive control ( <a href="#">ab180880</a> ). Hypoxia can be induced with treatment using certain agents e.g. CoCl2 or DFO, etc. so proper sample preparation is critical.

### 製品の特性

<b>製品の状態</b>	Liquid
<b>保存方法</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>バッファー</b>	pH: 7.50 Preservative: 0.05% Sodium azide Constituents: Tris glycine, 0.87% Sodium chloride
<b>精製度</b>	Protein A purified
<b>特記事項(精製)</b>	Protein A purified from cell culture supernatant.
<b>ポリ/モノ</b>	モノクローナル
<b>クローン名</b>	H1alpha67
<b>アイソタイプ</b>	IgG2b

### アプリケーション

Our [Abpromise guarantee](#) covers the use of **ab463** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Abreviews	特記事項
ICC/IF	★★★★☆	1/100 - 1/500.
IP	★★★★☆	1/10.
WB	★★★★☆	1/500 - 1/1000.
IHC-P	★★★★☆	1/100 - 1/300. Antigen retrieval is not essential but may optimise staining.
ELISA		Use at an assay dependent concentration.
ChIP		Use at an assay dependent concentration.
Flow Cyt		Use at an assay dependent concentration. <a href="#">ab170192</a> - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.
EMSA		Use at an assay dependent concentration.

## ターゲット情報

<b>機能</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>組織特異性</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>配列類似性</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>ドメイン</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>翻訳後修飾</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.

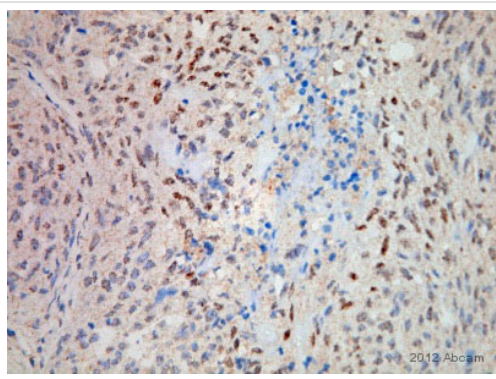
Ubiquitinated; in normoxia, following hydroxylation and interaction with VHL. Lys-532 appears to be the principal site of ubiquitination. Clioquinol, the Cu/Zn-chelator, inhibits ubiquitination through preventing hydroxylation at Asn-803.

The iron and 2-oxoglutarate dependent 3-hydroxylation of asparagine is (S) stereospecific within HIF CTAD domains.

## 細胞内局在

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

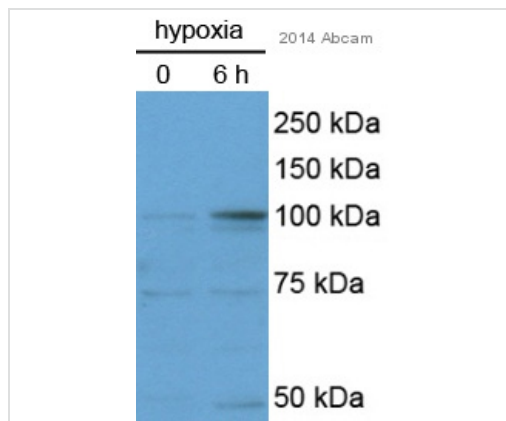
## 画像



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463)

This image is courtesy of an anonymous Abreview

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Dog breast cancer tissue sections labeling HIF-1-alpha with ab463 at 1/500. Tissue was fixed with formaldehyde and blocked with a peroxidase block for 5 minutes at 25°C; antigen retrieval was by heat mediation with EDTA buffer. Samples were incubated with primary antibody (1/500 in 1% BSA + PBS) for 30 minutes at 25°C. A biotin-conjugated Mouse anti-mouse IgG polyclonal was used as the secondary antibody.



Western blot - Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463)

This image is courtesy of an anonymous Abreview

**All lanes** : Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463) at 1/1000 dilution

**All lanes** : Mouse hepatocytes - treated 1% O<sub>2</sub> hypoxia

Lysates/proteins at 25 µg per lane.

### Secondary

**All lanes** : HRP-conjugated goat anti-mouse IgG at 1/10000 dilution

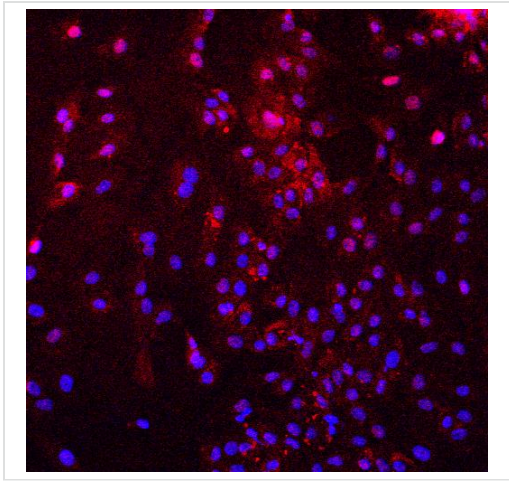
Developed using the ECL technique.

Performed under reducing conditions.

**Observed band size:** 100 kDa

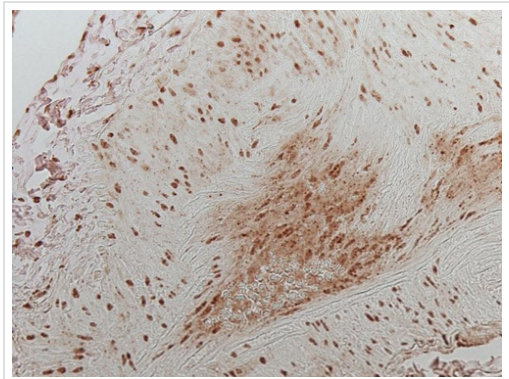
why is the actual band size different from the predicted?

**Exposure time:** 40 seconds



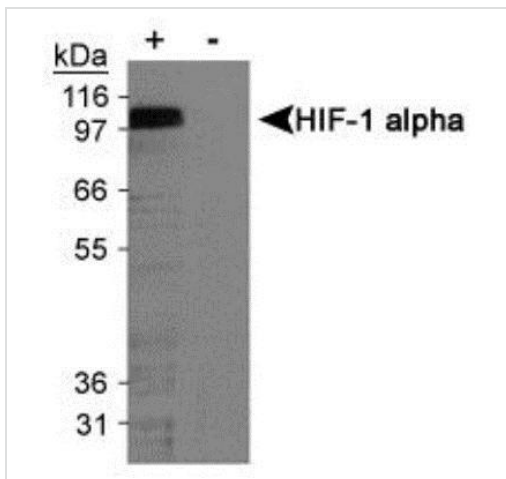
ab463 staining HIF-1 alpha in the pig endothelial cells under hypoxia condition by ICC/IF (Immunocytochemistry/immunofluorescence).

Immunocytochemistry/ Immunofluorescence - Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human lung tissue sections labeling HIF-1-alpha with ab463.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463)

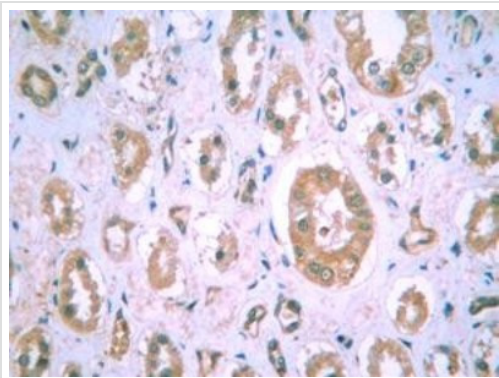


Western blot - Anti-HIF-1 alpha antibody  
[H1alpha67] - ChIP Grade (ab463)

**All lanes :** Anti-HIF-1 alpha antibody [H1alpha67] - ChIP Grade (ab463)

**Lane 1 :** Cobalt chloride treated COS-7 nuclear extracts

**Lane 2 :** Untreated COS-7 nuclear extracts



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF-1 alpha antibody  
[H1alpha67] - ChIP Grade (ab463)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling HIF-1-alpha with ab463.

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