

Recombinant Human HIF-1 alpha protein ab154478

4 References    画像数 3

製品の詳細

製品名	Recombinant Human HIF-1 alpha protein
精製度	> 75 % SDS-PAGE. ab154478 was purified by Ni chromatography and sterile filtered.
発現系	Escherichia coli
アクセッション番号	<u>Q16665-2</u>
タンパク質長	Full length protein
Animal free	No
由来	Recombinant
生物種	Human
配列	MSDKIIHLTDDSFDTDVLKADGAILVDFWAEWCGPCKMIAPI LDEIADEY QGKLTVAKLNIDQNPGTAPKYGIRGIPTLLLFKNGEVAATKV GALSKGQL KEFLDANLAGSGSGHMHSHHSSGLVPRGSGMKETAALKFE RQHMDSPD LGTENLYFQMEGAGGANDKKKISSERRKEKSRDAARSRRSK ESEVFYEL AHQLPLPHNVSSHLDKASVMRLTISYLRVRKLLDAGDLIED DMKAQMNC FYLKALDGFVMVLTDGDMIIYISDNVNKYMGLTQFELTGHSV FDFTHPCD HEEMREMLTHRNLVKKGKEQNTQRSFFLRMKCTLTSGRTM NIKSATWK VLHCTGHIHVYDTNSNPQCGYKKPPMTCLVLICEPIPHPSN IEIPLDSK TFLSRHSLDMKFSYCDERITELMGYEPEELLGRSIYEYHAL DSDHLTKT HHDMFTKGQVTTGQYRMLAKRGGYVWVETQATVIYNTKNSQP QCIVCVNY VVSGIIQHDLIFSLQQTECVLKPVESSDMKMTQLFTKVESED TSSLFDKL KKEPDALTLLAPAAGDTIISLDFGSNDTETDDQQLEEVPLYN DVMLPSPN EKLQNINLAMSPLETAETPKPLRSSADPALNQEVALKLEPNP

ESLELSFT  
MPQIQDQTPSPSDGSTRQSSPEPNPSEYCFYVDSDMVNEFK  
LELVEKLF  
AEDTEAKNPFSTQDQTDLDLEMLAPYIPMDDDFQLRSFDQLSP  
LESSSASP  
ESASPQSTVTVFQQTQIQEPTANATTTTATTDELKTVTKDRM  
EDIKILIA  
SPSPTHIHKETTSATSSPYRDTQSRTASPNRAGKGVIEQTEK  
SHPRSPNV  
LSVALSQRTTVPEEELNPKILALQNAQRKRKMEHDGSLFQAV  
GIG

予測される分子量 100 kDa including tags

領域 1 to 735

タグ His tag N-Terminus

## 特性

Our **Abpromise guarantee** covers the use of **ab154478** 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 ELISA  
Western blot  
SDS-PAGE

製品の状態 Liquid

備考 Product was previously marketed under the MitoSciences sub-brand.

## 前処理および保存

保存方法および安定性 Shipped on Dry Ice. Store at -80°C. Avoid freeze / thaw cycle.  
pH: 8.00  
Constituents: 0.61% Tris, 10% Glycerol, 0.88% Sodium chloride

## 関連情報

**機能** 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.

**組織特異性** 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.

## 配列類似性

Contains 1 basic helix-loop-helix (bHLH) domain.  
Contains 1 PAC (PAS-associated C-terminal) domain.  
Contains 2 PAS (PER-ARNT-SIM) domains.

## ドメイン

Contains two independent C-terminal transactivation domains, NTAD and CTAD, which function synergistically. Their transcriptional activity is repressed by an intervening inhibitory domain (ID).

## 翻訳後修飾

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.

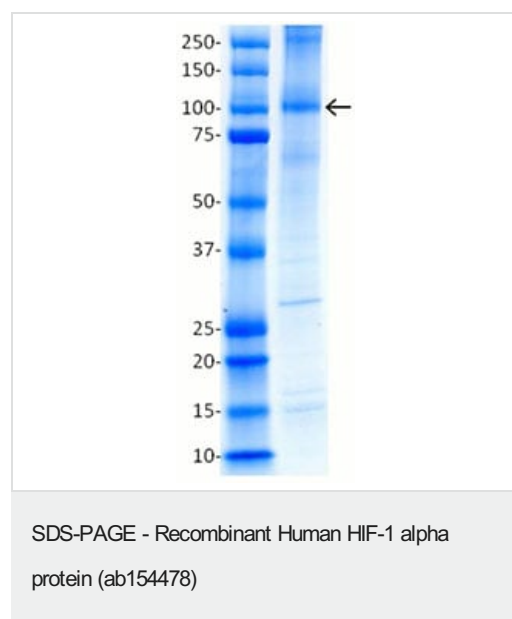
Sumoylated; by SUMO1 under hypoxia. Sumoylation is enhanced through interaction with RWDD3. Desumoylation by SENP1 leads to increased HIF1A stability and transcriptional activity. Ubiquitinated; in normoxia, following hydroxylation and interaction with VHL. Lys-532 appears to be the principal site of 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

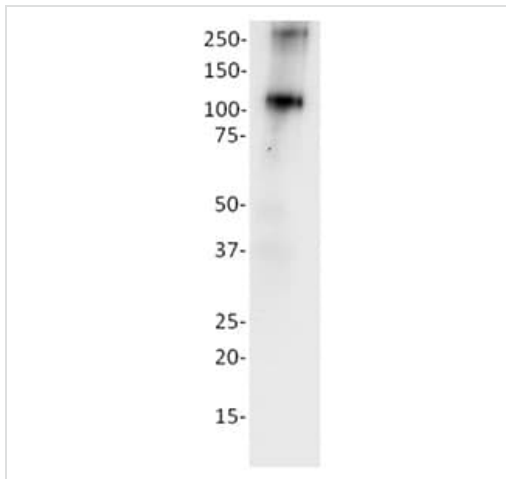
Cytoplasm. Nucleus. Cytoplasmic in normoxia, nuclear translocation in response to hypoxia. Colocalizes with SUMO1 in the nucleus, under hypoxia.

## 画像



1µg of ab154478 was examined by SDS-PAGE and commassie blue protein stain. Full-length HIF-1-alpha is indicated by the arrow.  
Purity is judged to be >75%.

Expected MW is 100kDa.

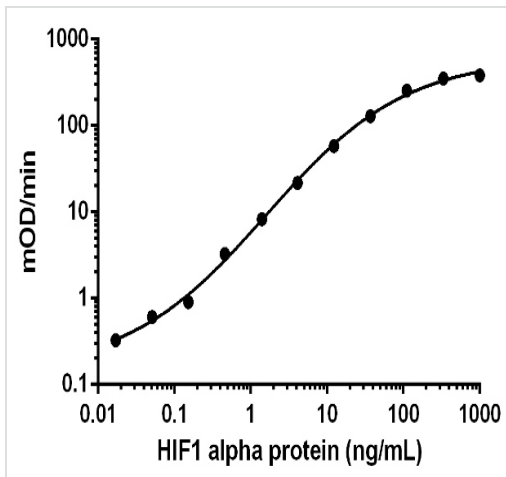


Western blot - Recombinant Human HIF-1 alpha protein (ab154478)

ab154478 was examined by western blot with an anti-HIF-1-alpha antibody.

Lane1: 10ng HIF1 alpha full-length protein (ab154478)

Block: 4% milk/PBS Primary antibody: anti-HIF-1-alpha ([ab51608](#)), 1:1000; 2 hours room temperature. Secondary antibody: anti-Rabbit HRP 1:5000 ECL detection



ELISA - Recombinant Human HIF-1 alpha protein (ab154478)

ab154478 was tested in the HIF1A Human ELISA Kit ([ab117996](#)).  
ab154478 was tested under standard conditions in the sandwich ELISA kit using a 3-fold dilution series from 3µg/ml.

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