缺氧诱导因子 1α /HIF-1α 抗体

产品货号： mlR20398

英文名称： HIF-1 Alpha

中文名称： 缺氧诱导因子 1α /HIF-1α 抗体

别　　名： ARNT interacting protein; ARNT-interacting protein; Basic helix loop helix PAS protein MOP1; Basic-helix-loop-helix-PAS protein MOP1; bHLHe78; Class E basic helix-loop-helix protein 78; HIF 1A; HIF 1alpha; HIF-1-alpha; HIF1 A; HIF1 Alpha; HIF1; HIF1-alpha; HIF1A; HIF1A_HUMAN; Hypoxia inducible factor 1 alpha; Hypoxia inducible factor 1 alpha isoform I.3; Hypoxia inducible factor 1 alpha subunit; Hypoxia inducible factor 1 alpha subunit basic helix loop helix transcription factor; Hypoxia inducible factor 1, alpha subunit (basic helix loop helix transcription factor); Hypoxia inducible factor1alpha; Hypoxia-inducible factor 1-alpha; Hypoxia-inducible factor-1a; Member of PAS protein 1; Member of PAS superfamily 1; Member of the PAS Superfamily 1; MOP 1; MOP1; PAS domain-containing protein 8; PASD 8; PASD8.

研究领域： 肿瘤　细胞生物　神经生物学　信号转导　细胞凋亡

抗体来源： Rabbit

克隆类型： Polyclonal

交叉反应： Human, Mouse, Rat, Dog, Pig, Cow, Horse, Rabbit, Sheep,

产品应用： ELISA=1:500-1000 IHC-P=1:400-800 IHC-F=1:400-800 Flow-Cyt=1μg/Test ICC=1:100-500 IF=1:100-500 （石蜡切片需做抗原修复）

not yet tested in other applications.

optimal dilutions/concentrations should be determined by the end user.

分 子 量： 92kDa

细胞定位： 细胞核 细胞浆

性　　状： Lyophilized or Liquid

浓　　度： 1mg/ml

免 疫 原： KLH conjugated synthetic peptide derived from human HIF-1 Alpha:1451-550/826

亚　　型： IgG

纯化方法： affinity purified by Protein A

储 存 液： Preservative: 15mM Sodium Azide, Constituents: 1% BSA, 0.01M PBS, pH 7.4

保存条件： Store at -20 ° C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20° C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 ° C.

PubMed : PubMed

产品介绍 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. Two alternative transcripts encoding different isoforms have been identified.

Function:

Functions as a master transcriptional regulator of theadaptive response to hypoxia. Under hypoxic conditions activatesthe transcription of over 40 genes, including, erythropoietin,glucose transporters, glycolytic enzymes, vascular endothelialgrowth factor, and other genes whose protein products increaseoxygen delivery or facilitate metabolic adaptation to hypoxia.Plays an essential role in embryonic vascularization, tumorangiogenesis and pathophysiology of ischemic disease. Binds to coreDNA sequence 5'-[AG]CGTG-3' within the hypoxia response element(HRE) of target gene promoters. Activation requires recruitment oftranscriptional coactivators such as CREBPB and EP300. Activity isenhanced by interaction with both, NCOA1 or NCOA2. Interaction withredox regulatory protein APEX seems to activate CTAD andpotentiates activation by NCOA1 and CREBBP.

Subunit:

Interacts with COPS5 subunit of COP9 signalosome complex,leading to the regulation of its stability. Interacts with TSGA10(By similarity). Efficient DNA binding requires heterodimerizationof an alpha and a beta/ARNT subunit. Binds to the TAZ-type 1domains of CREBBP and EP300. Interacts with NCOA1, NCOA2, APEX andHSP90. Interacts with VHL which docks HFA1 to the E3 ubiquitinligase complex for subsequent destruction. Interaction, via the ODDdomain, with the beta domain of VHLL, protects HIF1A fromdestruction by competing against the destructive targetinginitiated by VHL.

Subcellular Location:

Cytoplasm. Nucleus.

Tissue Specificity:

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.

Post-translational modifications:

In normoxia, is hydroxylated on Pro-402 and Pro-564 in theoxygen-dependent degradation domain (ODD) by EGLN1/PHD1 andEGLN2/PHD2. EGLN3/PHD3 has also been shown to hydroxylate Pro-564.The hydroxylated prolines promote interaction with VHL, initiatingrapid ubiquitination and subsequent proteasomal degradation. Underhypoxia, proline hydroxylation is impaired and ubiquitination isattenuated, resulting in stabilization.

In normoxia, is hydroxylated on Asn-803 by HIF1AN, thusabrogating interaction with CREBBP and EP300 and preventingtranscriptional activation.

S-nitrosylation of Cys-800 may be responsible for increasedrecruitment of p300 coactivator necessary for transcriptionalactivity of HIF-1 complex.

Acetylation of Lys-532 by ARD1 increases interaction with VHLand stimulates subsequent proteasomal degradation.

Requires phosphorylation for DNA-binding.

Similarity:

Contains 1 basic helix-loop-helix (bHLH) domain.

Contains 1 PAC (PAS-associated C-terminal) domain.

Contains 2 PAS (PER-ARNT-SIM) domains.

SWISS:

Q16665

Gene ID:

3091

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

缺氧诱导因子 1α 不仅对于机体在缺氧条件下维持正常的生理功能具有特别重要的意义,并在肿瘤的生长以及神经细胞凋亡等病理过程中起重要作用. HIF1 alpha 能调节许多下游基因的表达水平.

哺乳动物细胞在低氧压力条件下出现 HIF。HIF 是一种转录因子，对细胞的缺氧起稳定作用。

产品图片