9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

HIF1A Human

Hypoxia-Inducible Factor-1 Alpha Human Recombinant
RCP1015

Product Overview

Name	HIF1A Human
Description	
Hypoxia-Inducible Factor-1 Alpha Human Recombinant	
Accession (Primary)	Q16665
Synonyms	
Hypoxia-inducible factor 1 alpha, HIF-1 alpha, HIF1 alpha, ARNT-interacting protein, Member of PAS protein 1, Basic-helix-loop-helix-PAS protein MOP1, HIF1A, MOP1, HIF1, PASD8, HIF-1A.	
Introduction	
Hypoxia-inducible factor-1 (HIF-1), identified as one of the transcription factors, has been found to play an essential role in cellular and systemic oxygen homeostasis. HIF-1 is a heterodimer composed of HIF-1b subunit and one of three subunits (Hif-1a, Hif-2 (or Hif-3)). The activation of Hif-1 (is closely associated with a variety of tumors and oncogenic pathways. Hif-1 (consists of DNA binding domain (DBD domain), Dimerization domain and C-terminal regulatory domains, including two transactivation domains (TAD), an oxygen-dependent degradation (ODD) domain, and inhibitory domains. Under hypoxic conditions HIF1A activates the transcription of more than 40 genes, including, erythropoietin, glucose transporters, glycolytic enzymes, VEGF, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. HIF-1A also plays a crucial role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. It binds to core DNA sequence 5'-[AG]CGTG-3' within the hypoxia response element (HRE) of target gene promoters. Activation involves recruitment of transcriptional coactivators such as CREBPB and EP300. Its activity is improved by interaction with both, NCOA1 or NCOA2. Interaction with redox regulatory protein APEX appears to activate CTAD and potentiates activation by NCOA1 and CREBBP. The induction is under reduced oxygen tension. HIF1A is also induced by a variety of receptor-mediated factors such as growth factors, cytokines, and circulatory factors for example PDGF, EGF, FGF-2, IGF-2, TGF-1 beta, HGF, TNF alpha, IL-1 beta, angiotensin-2 and thrombin. Nevertheless, this induction is less intense than that stimulated by hypoxia.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile filtered colorless solution.	

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Formulation

The HIF1A recombinant Human solution (1mg/ml) is formulated in 20mM Tris-HCl pH-7.5 and 1mM DTT.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Purity

Greater than 90.0% as determined by SDS-PAGE.

Amino acid sequence

MEFKLELVEK LFAEDTEAKN PFSTQDTDLD LEMLAPYIPM DDDFQLRSFD QLSPLESSSA SPESASPQST VTVFQQTQIQ EPTANATTTT ATTDELKTVT KDRMEDIKIL IASPSPTHIH KETTSATSSP YRDTQSRTAS PNRAGKGVIE QTEKSHPRSP NVLSVALSQR TTVPEEELNP KILALQNAQR KRKMEHDGSL FQAVGIGTLL QQPDDHAATT SLSWKRVKGC KSSEQNGMEQ KTIILIPSDL ACRLLGQSMD ESGLPQLTSY DCEVNAPIQG SRNLLQGEEL LRALDQVN.

Precautions

HIF1A Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q16665)