

## HIF-1 alpha Protein, Human (His)

<b>Cat. No.:</b>	HY-P74888
<b>Synonyms:</b>	Hypoxia-inducible factor 1-alpha; HIF-1-alpha; BHLHE78; HIF1A; MOP1; PASD8
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	Q16665 (R575-N826)
<b>Gene ID:</b>	3091
<b>Molecular Weight:</b>	Approximately 31 kDa

### PROPERTIES

<b>AA Sequence</b>	<pre> R S F D Q L S P L E   S S S A S P E S A S   P Q S T V T V F Q Q   T Q I Q E P T A N A T T T T A T T D E L   K T V T K D R M E D   I K I L I A S P S P   T H I H K E T T S A T S S P Y R D T Q S   R T A S P N R A G K   G V I E Q T E K S H   P R S P N V L S V A L S Q R T T V P E E   E L N P K I L A L Q   N A Q R K R K M E H   D G S L F Q A V G I G T L L Q Q P D D H   A A T T S L S W K R   V K G C K S S E Q N   G M E Q K T I I L I P S D L A C R L L G   Q S M D E S G L P Q   L T S Y D C E V N A   P I Q G S R N L L Q G E E L L R A L D Q   V N           </pre>
<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris, 100 mM NaCl, 1 mM EDTA, pH 8.0 or 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	HIF-1 alpha functions as a master transcriptional regulator orchestrating the adaptive response to hypoxia, activating the transcription of over 40 genes critical for oxygen delivery, metabolic adaptation, and cellular response to low oxygen levels. Its target genes include erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, and HILPDA. This protein plays essential roles in embryonic vascularization, tumor angiogenesis, and the pathophysiology of
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ischemic diseases. HIF-1 alpha forms a heterodimer with ARNT, binding to the hypoxia response element (HRE) in target gene promoters. Its activation requires coactivators such as CREBBP and EP300, and its activity is enhanced by interaction with NCOA1, NCOA2, and APEX1. Furthermore, HIF-1 alpha is involved in axonal distribution and mitochondrial transport in neurons during hypoxia and, upon infection by SARS-CoV-2, contributes to the induction of glycolysis and a pro-inflammatory state in monocytes. It induces the expression of ACE2 and cytokines, promoting SARS-CoV-2 replication and monocyte inflammatory response.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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