Recombinant Human HIF1A Protein (Arg575-Asn826), His tagged

Cat. No. HIF1A-2941H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human HIF1A (Arg575-Asn826) protein fused with His tag was expressed in E. coli.
Species	Human
Source	E.coli
ProteinLength	Arg575-Asn826
Description	HIF-1 alpha, also known as HIF1A, contains 1 basic helix-loop-helix (bHLH) domain, 1 PAC (PAS-associated C-terminal) domain and 2 PAS (PER-ARNT-SIM) domains. It is one of the two subunits of Hypoxia-inducible factor-1 (HIF1). 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). HIF-1 alpha is expressed in most tissues with highest levels in kidney and heart. It is 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. HIF-1 alpha functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, it activates the transcription of over 4 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA,

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	and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. HIF1A plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. HIF-1 alpha 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 EP3.
Molecular Mass	28.19 kDa
Purity	>90 % as determined by SDS-PAGE.
Notes	For research use only.
Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 centigrade for one week. Store at -20 to -80 centigrade for twelve months from the date of receipt.
Storage Buffer	Supplied as solution form in PBS pH 7.5 or lyophilized from PBS pH 7.5.
Reconstitution	Reconstitute in sterile water for a stock solution.
Shipping	In general, proteins are provided as lyophilized powder/frozen liquid. They are shipped out with dry ice/blue ice unless customers require otherwise.

GENE INFORMATION

Gene Name	HIF1A hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor) [Homo sapiens (human)]
Official Symbol	HIF1A

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Synonyms	HIF1A; hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor); hypoxia-inducible factor 1-alpha; bHLHe78; HIF 1alpha; HIF1; MOP1; PASD8; HIF-1-alpha; member of PAS protein 1; ARNT interacting protein; ARNT-interacting protein; member of PAS superfamily 1; PAS domain-containing protein 8; basic-helix-loop-helix-PAS protein MOP1; class E basic helix-loop-helix protein 78; hypoxia-inducible factor 1 alpha isoform I.3; hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor); HIF-1alpha; HIF1-ALPHA;
Gene ID	3091
mRNA Refseq	NM_001243084
Protein Refseq	NP_001230013
MIM	603348
UniProt ID	Q16665

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