Recombinant Human HIF-1 alpha Protein

Catalog No.: RP03151

Sequence Information

Species
Human

Gene ID
3091

Swiss Prot
Q16665-1

Tags
N-His

Synonyms
Hypoxia-inducible factor 1-alpha, HIF1-alpha, HIF1A, BHLHE78, MOP1, PASD8

Product Information

Source
E. coli

Purification
≥ 95 % as determined by SDS-PAGE.

Calculated MW
28.4 kDa

Observed MW
34 kDa

Endotoxin
Please contact us for more information.

Formulation
Lyophilized from a 0.22 μm filtered solution of 50mM Tris, 100mM NaCl, 1mM EDTA, pH 8.0. Contact us for customized product form or formulation.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Background

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 the highest levels in the 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 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, 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 the 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 the recruitment of transcriptional coactivators such as CREBPB and EP300.

Basic Information

Description
Recombinant Human HIF-1 alpha Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Arg575-Asn826) of Human HIF-1 alpha (Accession #NP_001521.1) fused with 6×His tag at the N-terminus.

Activity

Shipping
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

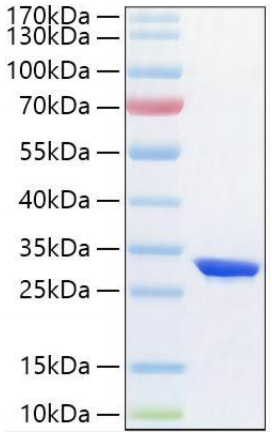
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Contact

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www.abclonal.com.cn

For research use only. Not for therapeutic or diagnostic purposes.
Please visit http://abclonal.com for a complete listing of recommended products.

Validation Data



Recombinant Human HIF-1 alpha Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.