

Recombinant Rat HIF1A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52211

Size: 10ug, 100ug

Protein Name: Hypoxia-inducible factor 1-alpha (HIF-1-alpha) (HIF1-alpha)

Synonym: Hif1a

UniProt ID: O35800

UniProt Link: www.uniprot.org/uniprotkb/O35800/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 825 AA

Molecular Weight: 92 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEGAGGENEKKKMSSERRKEKSRDAARSRRSKESEVFYELAHQLPLPHNVSSHLDKASVMRLTISY
LRVRKLLDAGDLIDEMKAMNCFYKAPDGFVMVLTDGDMYISDNVNKYMGLTQFELTGHSVF
DFTHPCDHEEMREMLTHRNGPVRKGKEQNTQRSFFLRMKCTLTSRGRTMNIKSATWKVLHCTGHI
HYYDTSSNQPCQGYKKPPMTCLVLICEPIPHPSNIEIPLDSKTFLSRHSLDMKFSCDERITELMGYE
PEELLGRSIYEEYHALDSDHLTKTHHDMFTKGQVTTGQYRMLAKRGGYVWVETQATVIYNTKDSQP
QCIVCVNYVVSIGIIQHDLIQSLQQTESVLKPVESDMKMTQLFTKVESEDTSCLFDKLLKEPDALTLLA
PAAGDTIISLDFGSDDTETEDQQLEDVPLYNDVMFPSSNEKLNINLAMSPLPASETPKPLRSSADPAL
NQEVALKLESSPESLGLSFTMPQIQDQPASPSDGSTRQSSPEPNPSEYCFDSDMVNVFKLELV
EKLFAEDTEAKNPFSAQDLDLEMLAPYIPMDDDFQLRSFDQLSPLESNSPSPSVSTVTGFGQTQ
LQKPTITVTAATATTATTTDESKAVTKDNIEDIKILIASPPSTQVPQEMTTAKASAYSGTHSRTASPDRA
GKRVEIKTDKAHPRSLNLSVTLNQRNTVPEEELNPRTIALQNAQRKRKMEHDGSLFQAAGIGTLLQQ
PGDRAPTMSSLSWKRKGYISSEQDGMEQKTIFLIPSDLACRLLGQSMDESGLPQLTSYDCEVNAPIQ
GSRNLLQGEELLRALDQVN

3. Buffer Composition



Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Hypoxia-inducible factor 1-alpha (HIF-1-alpha) (HIF1-alpha) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Functions as a master transcriptional regulator of the adaptive response to hypoxia. Under hypoxic conditions, 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. Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease (By similarity). Heterodimerizes with ARNT; heterodimer binds to core DNA sequence 5'-TACGTG-3' within the hypoxia response element (HRE) of target gene promoters (By similarity). Activation requires recruitment of transcriptional coactivators such as CREBBP and EP300. Activity is enhanced by interaction with NCOA1 and/or NCOA2. Interaction with redox regulatory protein APEX1 seems to activate CTAD and potentiates activation by NCOA1 and CREBBP. Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia (By similarity).

Subcellular Localization: Cytoplasm . Nucleus. Nucleus speckle . Note=Colocalizes with HIF3A in the nucleus and speckles (By similarity). Cytoplasmic in normoxia, nuclear translocation in response to hypoxia (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.