

## Product datasheet for **RC402570**

### HIF-1 alpha (HIF1A) (NM\_001530) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	HIF-1 alpha (HIF1A) (NM_001530) Human Mutant ORF Clone
Mutation Description:	P582S
Affected Codon#:	582
Affected NT#:	1744
Nucleotide Mutation:	HIF1A Mutant (P582S), Myc-DDK-tagged ORF clone of Homo sapiens hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor) (HIF1A), transcript variant 1 as transfection-ready DNA
Effect:	Maximal oxygen consumption, association with
Symbol:	HIF1A
Synonyms:	bHLHe78; HIF-1-alpha; HIF-1A; HIF-1alpha; HIF1; HIF1-ALPHA; MOP1; PASD8
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_001530
ORF Size:	2478 bp
Restriction Sites:	Sgfl-Mlul



[View online »](#)

**ORF Nucleotide Sequence:**

>RC402570 representing NM\_001530  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGAGGGCGCCGGCGCGCAACGACAAGAAAAAGATAAGTTCTGAACGTCGAAAAAGAAAGTCTCGAG  
 ATGCAGCCAGATCTCGCGAAGTAAAGAATCTGAAGTTTTTATGAGCTTGCTCATCAGTTGCCACTTCC  
 ACATAATGTGAGTTCGCATCTTGATAAAGCCTCTGTGATGAGGCTTACCATCAGTATTTGCGTGTGAGG  
 AAACCTTCTGGATGCTGGTATTGGATATTGAAGATGACATGAAAGCACAGATGAATTGCTTTTATTGGA  
 AAGCCTTGGATGGTTTTGTTATGGTTCTCACAGATGATGGTGACATGATTTACATTTCTGATAATGTGAA  
 CAAATACATGGGATTAACACTAGTTTGAACAACTGGACACAGTGTGTTTGATTTACTCATCCATGTGAC  
 CATGAGGAAATGAGAGAAATGCTTACACACAGAAATGGCCTTGTAAGAAAGGTAAGAACAACACACAC  
 AGCGAAGCTTTTTCTCAGAATGAAGTGTACCCTAACTAGCCGAGGAAGAACTATGAACATAAAGTCTGC  
 AACATGGAAGGTATTGCACTGCACAGGCCACATTCACGTATATGATACCAACAGTAACCAACCTCAGTGT  
 GGGTATAAGAAACCACCTATGACCTGCTTGGTGTGATTTGTGAACCCATTCTCACCCATCAAATATTG  
 AAATTCCTTTAGATAGCAAGACTTTCTCAGTCGACACAGCCTGGATATGAAATTTCTTATTGTGATGA  
 AAGAATTACCGAATTGATGGGATATGAGCCAGAAGAACTTTTAGGCCGCTCAATTTATGAATATTATCAT  
 GCTTTGGACTCTGATCATCTGACCAAACTCATCATGATATGTTACTAAAGGACAAGTCACCACAGGAC  
 AGTACAGGATGCTTGCCAAAAGAGGTGGATATGTCTGGGTTGAAACTCAAGCAACTGTATATAACAC  
 CAAGAATTCTCAACCACAGTGCATTGTATGTGTAATTACGTTGTGAGTGGTATTATTCAGCAGGACTTG  
 ATTTCTCCCTTCAACAAACAGAATGTGTCCTAAACCGGTTGAATCTTCAGATATGAAATGACTCAGC  
 TATTCACCAAAGTTGAATCAGAAGATACAAGTAGCCTTTTGACAACTTAAGAAGGAACCTGATGCTTT  
 AACTTTGCTGGCCAGCCGCTGGAGACACAATCATATCTTTAGATTTTGGCAGCAACGACACAGAAACT  
 GATGACCAGCAACTTGAGGAAGTACCATTATATAATGATGTAATGCTCCCTCACCCAACGAAAAATTAC  
 AGAATATAAAATTTGGCAATGTCTCCATTACCCACGCTGAAACGCCAAAGCCACTTCGAAGTAGTGCTGA  
 CCCTGCACTCAATCAAGAAGTTGCATTAATAAGAACCAATCCAGAGTCACTGGAACCTTTCTTTTACC  
 ATGCCCCAGATTCAGGATCAGACACCTAGTCTCCGATGGAAGCACTAGACAAAGTTCACTGAGCCTA  
 ATAGTCCCAGTGAATATTGTTTTATGTGGATAGTATGGTCAATGAATTCAAGTTGGAATTGGTAGA  
 AAAACTTTTTGCTGAAGACACAGAAGCAAGAACCCTTTTCTACTCAGGACACAGATTTAGACTTGGAG  
 ATGTTAGTCCCTATATCCCAATGGATGATGACTTCCAGTTACGTTCTTCGATCAGTTGTCATCATTAG  
 AAAGCAGTTCCGCAAGCCCTGAAAGCGCAAGTCTCAAAGCACAGTTACAGTATTCAGCAGACTCAAAT  
 ACAAGAACCTACTGCTAATGCCACCCTACCCTGCCACCCTGATGAATTAACAAAGTGCACAAAAGAC  
 CGTATGGAAGACATTAATAATTTGATTGCATCTCCATCTCCTACCCACATACATAAAGAACTACTAGTG  
 CCACATCATCACCATATAGAGATACTCAAAGTCGGACAGCCTCACAAACAGAGCAGGAAAAGGAGTCAT  
 AGAACAGACAGAAAAATCTCATCCAAGAAGCCCTAACGTGTTATCTGTGCTTTGAGTCAAAGAACTACA  
 GTTCTGAGGAAGAACTAAATCCAAGATACTAGCTTTGCAGAATGCTCAGAGAAAGCGAAAAATGGAAC  
 ATGATGGTTCACTTTTTCAAGCAGTAGGAATTGGAACATTATTACAGCAGCCAGACGATCATGCAGCTAC  
 TACATCACTTTCTTGAAACGTGTAAGGATGCAATCTAGTGAACAGAATGGAATGGAGCAAAAAGACA  
 ATTATTTAATACCCTCTGATTTAGCATGTAGACTGCTGGGCAATCAATGGATGAAAGTGGATTACCAC  
 AGCTGACCAGTTATGATTGTGAAGTAAATGCTCTATACAAGGCAGCAGAAACCTACTGCAGGGTGAAGA  
 ATTACTCAGAGCTTTGGATCAAGTTAAC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC402570 representing NM\_001530  
 Red=Cloning site Green=Tags(s)

MEGAGGANDKKKISSERRKEKSRDAARRSRKSESEVFYELAHQLPLPHNVSSHLDKASVMRLTISYLRVR  
 KLLDAGDLIEDDMKAQMNCFYLKALDGFVMVL TDDGDMIYISDNVNKYMGLTQFELTGHSVDFTHPCD  
 HEEMREMLTHRNLVKKGKEQNTQRSFFLRMKCTLT SRGR TMNIKSATWKVLHCTGHIHVYDTNSNQPC  
 GYKPPMTCLVLI CEPIPHPSNIEIPLDSKTFLSRHS LDMKFSYCDERITELMGYEPEELLGRSIEYEH  
 ALDSDHLTKTHDMFTKGQVTTGQYRMLAKRGYVWVETQATVIYNTKNSQPQCIVCVNYVVSIGIQHDL  
 IFSLQQTECVLKPVESSDMKMTQLFTKVESED TSS LFDK LKKEPDALTLLAPAAGDTIISLDFGSNDTET  
 DDQQLEEVPLYNDVMLPSPNEKLQINLAMSPLPTAETPKPLRSSADPALNQEVALKLEPNPELELSFT  
 MPQIQDQTPSPSDGSTRQSSPEPNPSEYCFYVSDMVNEFKLELVEKLF AEDEAKNPFSTQD TDLDLE  
 MLAPYIPMDDDFQLRSFDQLSSLESSASPESASPQSTVTVFQQTQIQEPTANATTTTATDELKTVTKD  
 RMEDIKILIASPSPTHIHKETT SATSSPYRDTQSRTASPNRAGKGVIEQTEKSHRSPNVL SVALSQRTT  
 VP E EELNPKILALQNAQRKRKMEHDGSLFQAVGIGTLLQQPDDHAATTSLSWKRVKGCKSSEQNGMEQKT  
 IILIPSDLACRLLGQSMDESGLPQLTSYDCEVNAPIQGSRNLLQGEELLRALDQVN

SGPTRRRRLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**RefSeq:** [NP\\_001521](#)

**RefSeq Size:** 2478 bp

**RefSeq ORF:** 2481 bp

**Locus ID:** 3091

**Cytogenetics:** 14q23.2

**Domains:** PAS, HLH, PAC

**Protein Families:** Transcription Factors

**Protein Pathways:** mTOR signaling pathway, Pathways in cancer, Renal cell carcinoma

**MW:** 90.9 kDa

**Gene Summary:** This gene encodes the alpha subunit of transcription factor hypoxia-inducible factor-1 (HIF-1), which is a heterodimer composed of an alpha and a beta subunit. HIF-1 functions as a master regulator of cellular and systemic homeostatic response to hypoxia by activating transcription of many genes, including those involved in energy metabolism, angiogenesis, apoptosis, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia. HIF-1 thus plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. [provided by RefSeq, Jul 2011]