

Product datasheet for **SC127304**

HIF-1 alpha (HIF1A) (NM_181054) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	HIF-1 alpha (HIF1A) (NM_181054) Human Untagged Clone
Tag:	Tag Free
Symbol:	HIF-1 alpha
Synonyms:	bHLHe78; HIF-1-alpha; HIF-1A; HIF-1alpha; HIF1; HIF1-ALPHA; MOP1; PASD8
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC127304 sequence for NM_181054 edited (data generated by NextGen Sequencing)

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ATGGAGGGCGCCGGCGCGCAACGACAAGAAAAAGATAAGTTCTGAACGTCGAAAAAGAA
AAGTCTCGAGATGCAGCCAGATCTCGGCGAAGTAAAGAATCTGAAGTTTTTATGAGCTT
GCTCATCAGTTGCCACTTCCACATAATGTGAGTTCGCATCTTGATAAGGCCTCTGTGATG
AGGCTTACCATCAGCTATTTGCGTGTGAGGAACTTCTGGATGCTGGTGATTTGGATATT
GAAGATGACATGAAAGCACAGATGAATTGCTTTTATTTGAAAGCCTTGGATGGTTTTGTT
ATGGTTCTCACAGATGATGGTGACATGATTTACATTTCTGATAATGTGAACAAATACATG
GGATTAAGTCAAGTTGAACTAACTGGACACAGTGTGTTGATTTACTCATCCATGTGAC
CATGAGGAAATGAGAGAAATGCTTACACACAGAAATGGCCTTGTGAAAAAGGGTAAAGAA
CAAAACACACAGCGAAGCTTTTTCTCAGAATGAAGTGTACCCTAACTAGCCGAGGAAGA
ACTATGAACATAAAGTCTGCAACATGGAAGGTATTGCACTGCACAGGCCACATTCACGTA
TATGATACCAACAGTAACCAACCTCAGTGTGGGTATAAGAAACCACCTATGACCTGCTTG
GTGCTGATTTGTGAACCCATTCTCACCATCAAATATTGAAATTCCTTTAGATAGCAAG
ACTTTCCTCAGTCGACACAGCCTGGATATGAAATTTTCTATTGTGATGAAAGAATTACC
GAATTGATGGGATATGAGCCAGAAGAAGCTTTAGGCCGCTCAATTTATGAATATTATCAT
GCTTTGGACTCTGATCATCTGACCAAACTCATCATGATATGTTACTAAAGGACAAAGTC
ACCACAGGACAGTACAGGATGCTTGCCAAAAGAGGTGGATATGTCTGGGTTGAAACTCAA
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GTTGTGAGTGGTATTATTCAGCAGCACTGATTTTCTCCCTTCAACAAACAGAATGTGTC
CTTAAACCGGTTGAATCTTCAGATATGAAAATGACTCAGCTATTCACCAAAGTTGAATCA
GAAGATAACAAGTAGCCTCTTTGACAAACTTAAGAAGGAACCTGATGCTTTAACTTTGCTG
GCCCCAGCCGCTGGAGACACAATCATATCTTTAGATTTTGGCAGCAACGACACAGAAAAT
GATGACCAGCAACTTGAGGAAGTACCATTATATAATGATGTAATGCTCCCTCACCCAAC
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GCTGAAGACACAGAAGCAAAGAACCATTTTCTACTCAGGACACAGATTTAGACTTGGAG
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TCACCATTAGAAAAGCAGTTCGCAAGCCCTGAAAGCGCAAGTCCCTCAAAGCACAGTTACA
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ACTGATGAATTAACACAGTGCACAAAGACCGTATGGAAGACATTAATAATTGATTGCA
TCTCCATCTCCTACCCACATACATAAAGAACTACTAGTGCCACATCATCACCATATAGA
GATACTCAAAGTCGGACAGCCTCACCAACAGAGCAGGAAAAGGAGTCATAGAACAGACA
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GTTCTGAGGAAGAACTAAATCCAAAGATACTAGCTTTGCAGAATGCTCAGAGAAAAGCGA
AAAATGGAACATGATGGTTCACCTTTTTCAAGCAGTAGGAATTTTAG

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Clone variation with respect to NM_181054.2

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_181054 unedited
 TGTATACGACCTCACTATAGGGCGGCCGGAATTCGCACGAGGCACCTCTGGACTTGCCT
 TTCCTTCTCTTCCGCGTGTGGAGGGAGCCAGCGCTTAGGCCGGAGCGAGCCTGGGGGC
 CGCCCGCGTGAAGACATCGCGGGGACCGATTACCATGGAGGGCGCCGGCGCGGAAC
 GACAAGAAAAAGATAAGTTCTGAACGTCGAAAAGAAAAGTCTCGAGATGCAGCCAGATCT
 CGGCGAAGTAAAGAATCTGAAGTTTTTTATGAGCTTGCTCATCAGTTGCCACTTCCACAT
 AATGTGAGTTCGCATCTTGATAAGGCCTCTGTGATGAGGCTTACCATCAGCTATTTGCGT
 GTGAGGAAACTTCTGGATGCTGGTGATTTGGATATTGAAGATGACATGAAAGCACAGATG
 AATTGCTTTTTATTGAAAGCCTTGGATGGTTTTGTATGGTTCTCACAGATGATGGTGAC
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 TCAATGAAGTGTACCCTAACTAGCCGAGGAAGAACTATGAACATAAAGTCTGCACATGG
 GAAGGTATTGCACTGCACAGGCCATTACGTATATGATACCACAGTAACCAACCTCAGT
 GTGGGGATAGAAACCACTATGACCTGGCTGGTGCTGATTTGGGACCATTCTCACCTCAA
 TATGAAAANTCTTAATAGCAGACTTTCTCATCGAACACCTGAATGAAATTNCTTATGGAT
 GAAGATACCGATGATGGNAATAGCCAAGAATTTTAGCCGCCATTTGAAATATAGGCTGAA
 CA

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_181054 unedited
 AATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTCCCAAAAAATGT
 TTATTTGATGTAACAAAACAATACAGTTAGTGTTAGATCCAACCACAAAGAGCAAAAGGA
 ATGAAAAATTTGCCATTGTCCATAGAAAAACAAGATTTTTACTGGGACAACTATATAT
 TCCTAAAATAATGCTTCTAAAATTACTCAATTATTGAAATCTACATGAAAAAAGGATGT
 TAATAGCGACAAAAGTGCAATAAAATCAAACATTGTATTTGAGCAAATTAACATACTAGGC
 AATTTTGTAAAAATGCATGATTTTTTTTTTCTTGTTAACAGTCTGCTCAAAATATCTTT
 ATACCAACAGGGTAGGCAAAACATTTAGGTTAATATCAGTTACACAATATTAGCATAAA
 CTTCCACAACACATAGGGTATTGTTTTCTTTGAGCTGGCAAAGGGACTATAAAAAACAT
 CAGATGATTTCTCTGAATTGAAAATTTATCCAATAAATGCCACATACCTTCTAGATAT
 ATGCATATCTTTCTATATTATGTAATGGCTTTACCCATTTAAATAATAAACCATACAGC
 ATTTAAGAATCATTATTATATGATTAACAATGTCATGTTCCAGGTTTAACAATTTATAG
 GCCAAAAAATTTCTTCTTAAAAACTAGTTTTATAAACGCAGAATTATCCATGAGTAC
 TGCTGGTATTTTTAAGAAATATATTGTGCAATTGTGGCTACCACGTAAGTCTGGCAAAG
 CATATTATTTATGAAAAATGTGAAAAAAGGTGAAAAATTTTCACTGCTATGATATGAG
 GAAGGTACCGCTTCTACAAAATTTATGGGCATCTCTAAAATATTCGAAAAGGATAAECTC
 CTAGCCAATTATANTAAAAGGCATTTTAAATGAGCTCTGATGCATGGTTATACAACATG
 AAATGACTGTTGGGATCACTTAGGACTCTAAA

Restriction Sites:

NotI-NotI

ACCN:

NM_181054

Insert Size:

4000 bp

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 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](#)

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).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_181054.1](#), [NP_851397.1](#)

RefSeq Size: 3812 bp

RefSeq ORF: 2208 bp

Locus ID: 3091

UniProt ID: [Q16665](#)

Cytogenetics: 14q23.2

Protein Families: Transcription Factors

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

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]

Transcript Variant: This variant (2) lacks the penultimate coding exon compared to variant 1. This results in a frame-shift, and a shorter isoform (2) with a distinct C-terminus compared to isoform 1.