

## Product datasheet for RC213971

### KIF4A (NM\_012310) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	KIF4A (NM_012310) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	KIF4A
Synonyms:	KIF4; KIF4G1; MRX100
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC213971 ORF sequence, <b>codon optimized</b> . Due to the complexity of NM_012310, the ORF clone is codon optimized for mammalian Expression. The nucleotide sequence differs from the reference sequence, yet the amino acid sequence remains identical.

Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGAAGGAAGAGGTCAAGGGCATACCCGTGCGAGTTGCGTTGCGCTGTCGCCACTGGTGCCAAAGGAAA  
TTTCTGAGGGATGCCAGATGTGTCTCTCCTTTGTCCCAGGGGAGCCGAGGTCGTGGTCGGCACTGACAA  
GAGCTTTACATACGATTCGTTTTTGACCTAGCACAGAGCAGGAGGAGGATTTAATACCGCGGTCCGA  
CCCCTCAAAAGGGAGTGTAAAGGGCTACAACGCCACCGTGTGGCTTACGGCCAGACCGGCAGTGGCA  
AGACATATTCTATGGGTGGGCATACCCGCAGAACAGGAGAACGAACCAACCGTGGGGTAATTCCTCG  
AGTAATCCAACCTCTTTTAAGGAGATCGATAAAAAGAGTGACTTCGAATTTACCTCAAAGTTAGTTAT  
CTGGAGATCTACAACGAGGAAATCCTGGATCTGCTGTGCCAGCAGGGAGAAAGCCAGATCAATATTA  
GGGAGGACCCCAAGGAGGGATCAAGATAGTGGGCTGACCGAAAAGACAGTGTCTGGTCTGGGATA  
CGTGAGCTGTTTGAACAGGGGAACAATTCACGCACTGTCCGCTCCACCGCCATGAACCTCAGTCTTCC  
CGCTCTCACGCAATTTTACCATCAGTCTTGAGCAGCGGAAAAAGAGTGACAAGAATAGCAGCTTTAGGT  
CCAAGCTGCATCTGGTGGATTTGGCCGGCAGCGAGCGGCAAAAAAGACCAAGGCTGAGGGCGACCGGT  
GAAAGAGGGTATTAACATCAATCGGGGACTTCTGTGCTTGGGAAATGTAATCTCAGCCCTGGGTGACGAT  
AAGAAAGGAGGATTCGTACCATACCGGACTCAAACTCACCAGACTGCTGCAGGACTACTGGGAGGAA  
ACTCACACTCTGATGATCGCGTGTGTCTCCTGCTGATAGCAATCTCGAAGAACTCTCAATACCT  
GCGCTACGCCACCGGGCAGCAAGATCAAAAACAACCTATAGTGAACATCGACCCTCAGACAGCTGAG  
CTCAACCACCTGAAGCAGCAAGTGCAGCAGCTGCAGGCTTGCTGCTGCAGGCCACGGCGCACGCTGC



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CTGGCAGCATTACTGTTGAACCAAGTGAAAACCTGCAGTCCTTGATGGAGAAGAACCAGTCTCTCGTTGA  
GGAAAACGAAAAGCTCAGCCGAGGGCTTCCGAGGCCGCCGTCAAACAGCACAATGCTCGAAAGGATT  
ATTCTCACCGAGCAGGCCAATGAAAAGATGAACGCAAACTTGAGGAGCTGAGACAGCAGCCGCCTGTA  
AACTGGACCTGCAAAAAGCTGGTGGAGACTCTGGAGGACCAGGAGCTGAAGGAAAACGTGGAGATCATATG  
TAATCTGCAGCAACTGATCACACAGTTGAGCGACGAGACAGTTGCCTGTATGGCTGCTGCCATCGACAG  
GCAGTGGAGCAGGAAGCTCAGGTTGAGACTAGCCCCGAAACTAGCCGCAGTCCGATCGGTTCAACAACC  
AGCACGCATTGCGACAGGCTCAGATGAGTAAGGAATTGGTGGAGTTGAACAAAGCTCTGGCTCGAAGGA  
GGCCTTGGCGAGGAAGATGACCCAGAATGACTCCAGCTGCAGCCATCCAGTATCAGTACCAAGACAAC  
ATCAAAGAAGCTCGAGCTTGAAGTATCAACCTTCAAGAGAAAAAGAAAGAGCTGGTCTGGAGCTTCAAA  
CTGCAAAGAAAGATGCAAACCAGGCCAACTGAGTGAAAGGCGACGCAAGAGATTGCAGGAGCTGGAGGG  
TCAGATTGCAGACCTGAAGAAAAAACTGAACGAACAGTCCAAGCTCCTGAAACTGAAGGAGAGCACAGAG  
CGGACCGTCTCAAAGCTGAATCAGGAGATCCGCATGATGAAAAACCAACGGGTACAGTTGATGCGGCAAA  
TGAAGGAAGACGCAGAGAAGTTCAGGCAGTGAAGCAGAAAAAGGACAAAGAAGTATCCAGCTGAAGGA  
AAGGGACCGGAAGAGGCAGTACGAGCTTCTCAAAGTGGAGCGGAACTTTCAAAAACAGTCCAATGTCTG  
CGCGGAAAAACCGAGGAAGCAGCAGCCGAAACAAGCGGCTGAAAGATGCCTTGCAGAAACAGCGGGAAG  
TTGCGGACAAGCGAAAAGAGACTCAGAGCCGGGCATGGAGGGAACCGCCGCTCGCGTAAAGAAGCTGGCT  
GGCAATGAAATAGAGGTGATGGTGAACCGAGGAGGCCAAACGCCACCTCAATGACCTCCTCGAAGAT  
CGGAAAATCCTTGCAAGACAGTGGCCAACTGAAGGAGAAAAAGAAATCCGGCGAAAACCTCCCCCTA  
AGTTGCGGCGACGAACATTCAGCCTCACAGAGGTAAGGGGCCAGGTTAGCGAATCAGAAGACAGCATCAC  
GAAACAGATCGAATCCTTGAAAACCGAGATGGAATTTAGATCCGCACAGATCGCCGACCTGCAGCAAAA  
CTCCTGGACGCCGAGAGTGAAGCAGGCCCTAAACAAAGGTGGGAGAACATTGCTACAATACTCGAAGCCA  
AATGTGCCCTTAATACTTGTATCGGCGAGCTGGTTAGCAGCAAAATACAGGTGAGTAAGCTTGAGAGTTC  
TCTCAAGCAGAGCAAAAACCTCCTGCGCAGATATGCAGAAAAATGCTGTTGAGGAAAAGAAATCATTTCGCC  
GAGATTGAAACCGAGTTGCAAGCTGAGCTGGTTAGGATGGAACAGCAGCATCAGGAGAAAAGTCTGTATC  
TCTGTACAGCTCCAACAGAGCAAATGGCAGAGAAGCAGCTGGAAGAGTCAAGTGAAGTGAAGAGGAGCA  
GCAGCTTCTGAGCACCTGAAATGCCAAGACGAAGAACTCGAAAAGATGCGCGAAGTGTGCGAGCAGAAT  
CAGCAGCTCCTCAGGAAAAACGAAATCATTAAACAAAACTCACATTGCTGCAGGTGGCTAGCAGACAGA  
AGCACTTGCCAAAAGATACGCTGCTGAGCCAGACAGCTCTTTCGAGTATGTGCCCAAAAACCTAAACC  
ATCCCGCGTGAAGAGAGAAGTTTCTGGAACAGAGCATGGATATCGAGGATTTGAAGTATTGCTCCGAGCAT  
TCAGTCAATGAACATGAGGACGGTATGGTGAACGACGACGAGGGAGATGATGAAGATGGAACCGACCA  
AACTCGTCAAAGTTAGCCGCAAAAATATCCAAGGCTGTTATGCAAAGGATGGTGTGGCAACAAGCAATG  
CGGTTGCAGGAAACAGAAATCTGATTGCGGTGTAGACTGTTGTTGCGATCCTACAAAATGCCGGAATCGC  
CAACAGGGAAAAGACAGCCTCGGTACAGTTGAGAGAACCAGGATTCAGAGGGAAGCTTCAAAGTGAAGG  
ATCCCACAGAGGTTACCCAGGCCTGAGTTTCTCAATCCCGTGTGCGCCACACCTAATAGTAAGATTCT  
GAAGGAGATGTGCGACGTGGAACAGGTTCTTCCAAAAAACCCCTCCCGCCCCATCTCCCTTTGATCTG  
CCTGAACCTAAGCATGTTGCTACTGAGTACCAAGAAAATAAGGCCCTGGTAAGAAGAAGAAACGGGCTC  
TGGCCTAATACCTCCTTTTTCTGGCTGTTCCCAATTGAGGAGGAGGCCAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC213971 representing NM\_012310  
Red=Cloning site Green=Tags(s)

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MKEEVKGI PV RVALRCRPLVPKEISEGCMCLSFVPGEPQVVVGTDKSFTYDFVDFDPSTEQEEVFN TAVA
PLIKGVFKGYNATV LAYGQTGSGKTYSMGGAYTAEQENEPTVGVIPRVIQLLFKEIDKKSDFEFTLKVSY
LEIYNEEILDLLCPSREKAQINIREDPKEGIKIVGLTEKTVLVALDVTSCLEQGNSRTVASTAMNSQSS
RSHAIFTISLEQRKKS DNSSFRSKLHLVDLAGSERQKTKAEGDRLKEGININRGLLCLGNVISALGDD
KKGGFVYPYRDKL TRLLQDSLGGNSHTLMIACVSPADSNEETLNTLRYADRARKIKNKPIVNI DPQTAE
LNHLKQQVQQLQVLL LQAHGGLPGSITVPESENLSLMEKNQSLVEENEKLSRGLSEAAGQTAQMLERI
ILTEQANEKMNAKLEELRQHAACKLDLQKL VETLEDQELKENVEIICNLQQLITQLSDET VACMAAAIDT
AVEQEAQVETSPETSRS SDAFTTQHALRQAQMSKELVELNKALALKEALARKMTQNSQLQPIQYQYQDN
IKELELEVINLQKEKEELVLELQTAKKDANQAKL SERRRRLQELQEIADLKKKLNQSKLLKKESTE
RTVSKLNQEI RMMKNQRVQLMRQMKEDA EKFRQWKQKDKDEVIQLKERDRKRQYELLKLERNFQKQSNVL
RRKTEEAANKRLKDALQKQREVADKRKETQSRGMEGT AARVKNWLGNEIEVMVSTEEAKRHLNDLLED
RKILAQDV AQLKEKKESEGENPPPKLRRRTFSLTEVRGQVSESEDSITKQIESLETEMEFRSAQIADLQOK
LLDAESEDRPKQRWENIATILEAKCAL KYLIGELVSSKIQVSKLESSLKQSKTSCADMQKMLFEERNHFA
EJETELQAE LVRMEQQHQEKVLYLLSQLQQSQMAEKQLEESVSEKEQQLLSTLKCQDEELEKMREVCQN
QQLLRENEI IKQKLTLLQVASRQKHLPKDTLLSPDSSFEYVPPKPKPSRVKEKFL EQSMDIEDLYKCEH
SVNEHEDGDGDDDEGDDEEWKPTLKVSRKNIQGCSCKGWCGNKQCGCRKQKSDCGVDCDDPTKCRNR
QQGKDSLGT VERTQDSEGSFKLEDPTVTPGLSFFNPVCATPNSKILKEMCDVEQVL SKKTPPAPSPFDL
PELKHVATEYQENKAPGKKKKRALASNTSFFSGCSPIEEEAH
    
```

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



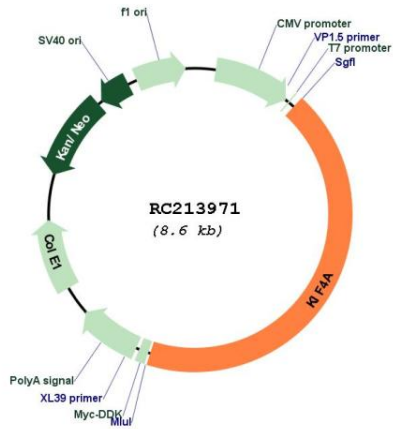
\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_012310

**ORF Size:** 3696 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_012310.3</a> , <a href="#">NM_012310.4</a> , <a href="#">NP_036442.3</a>
<b>RefSeq Size:</b>	4388 bp
<b>RefSeq ORF:</b>	3699 bp
<b>Locus ID:</b>	24137
<b>UniProt ID:</b>	<a href="#">O95239</a>
<b>Cytogenetics:</b>	Xq13.1
<b>Domains:</b>	kinesin
<b>Protein Families:</b>	Druggable Genome
<b>MW:</b>	139.9 kDa
<b>Gene Summary:</b>	This gene encodes a member of the kinesin 4 subfamily of kinesin related proteins. The encoded protein is an ATP dependent microtubule-based motor protein that is involved in the intracellular transport of membranous organelles. This protein also associates with condensed chromosome arms and may be involved in maintaining chromosome integrity during mitosis. This protein may also be involved in the organization of the central spindle prior to cytokinesis. A pseudogene of this gene is found on chromosome X.[provided by RefSeq, Mar 2010]

Product images:



Circular map for RC213971