

Product datasheet for **RG213971**

KIF4A (NM_012310) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	KIF4A (NM_012310) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	KIF4A
Synonyms:	KIF4; KIF4G1; MRX100
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG213971 ORF sequence, codon optimized . 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
GAGCTTTACATACGATTCGTTTTTGACCTAGCACAGAGCAGGAGGAGTATTTAATACCGCGGTCCGA
CCCCTCATAAAGGGAGTGTAAAGGGCTACAACGCCACCGTGTGGCTTACGGCCAGACCGGCAGTGGCA
AGACATATTCTATGGGTGGGCATACCCGAGAACAGGAGAACGAACCAACCGTGGGGTAATTCCTCG
AGTAATCCAACCTCTTTTAAGGAGATCGATAAAAAGAGTGACTTCGAATTTACCTCAAAGTTAGTTAT
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GGGAGGACCCCAAGGAGGGATCAAGATAGTGGGCTGACCGAAAAGACAGTCTCGTTGCTCTGGATA
CGTGAGCTGTTTGAACAGGGGAACAATTCACGCACTGTCCGCTCCACCGCCATGAACCTCAGTCTTCC
CGCTCTCACGCAATTTTACCATCAGTCTTGAGCAGCGGAAAAAGAGTGACAAGAATAGCAGCTTTAGGT
CCAAGCTGCATCTGGTGGATTTGGCCGGCAGCAGCGGCAAAAAAGACCAAGGCTGAGGGCAGCCGGCT
GAAAGAGGGTATTAACATCAATCGGGGACTTCTGTGCTTGGGAAATGTAATCTCAGCCCTGGGTGACGAT
AAGAAAGGAGGATTCGTACCATACCGGACTCAAACTCACCAGACTGCTGCAGGACTACTGGGAGGAA
ACTCACACTCTGATGATCGCGTGTGTCTCCTGCTGATAGCAATCTCGAAGAACTCTCAATACCT
GCGCTACGCCACCGGGCAGCAAGATCAAAAACAACCTATAGTGAACATCGACCCTCAGACAGCTGAG
CTCAACCACCTGAAGCAGCAAGTGCAGCAGCTGCAGGCTTGCTGCTGCAGGCCACGGCGCACGCTGC



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CTGGCAGCATTACTGTTGAACCAAGTGA AACCTGCAGTCCTTGATGGAGAAGAACCAGTCTCTCGTTGA
GGAAAACGAAAAGCTCAGCCGAGGGCTTCCGAGGCCGCCGGTCAAACAGCACA AATGCTCGAAAGGATT
ATTCTCACCGAGCAGGCCAATGAAAAGATGAACGCAAACTTGAGGAGCTGAGACAGCAGCCGCCTGTA
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TGAAGGAAGACGCAGAGAAGTTCAGGCAGTGGAAGCAGAAAAAGGACAAAGAAGTATCCAGCTGAAGGA
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ATCCCACAGAGGTTACCCAGGCCTGAGTTTCTCAATCCCGTGTGCGCCACACCTAATAGTAAGATTCT
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CCTGAACCTAAGCATGTTGCTACTGAGTACCAAGAAAATAAGGCCCTGGTAAGAAGAAGAAACGGGCTC
TGGCCTAATACCTCCTTTTTCTCTGGCTGTTCCCAATTGAGGAGGAGGCCAC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence: >RG213971 representing NM_012310
 Red=Cloning site Green=Tags(s)

MKEEVKGI PV RVALRCRPLVPKEISEGCMCLSFVPGEPQVVVGTDKSFTYDFVDFDPSTEQEEVFN TAVA
 PLIKGVFKGYNATV LAYGQTGSGKTYSMGGAYTAEQENPTVGVIPRVIQLLFKEIDKKSDFEFTLKVSY
 LEIYNEEILDLLCPSREKAQINIREDPKEGIKIVGLTEKTVLVALDVTSCLEQGNNSRTVASTAMNSQSS
 RSHAFITISLEQRKKS DKNSSFRSKLHLVDLAGSERQKTKAEGDRLKEGININRGLLCLGNVISALGDD
 KKGGFVVPYRDKLTRL LQDSLGGNSHTLMIACVSPADSNLEETLNTLRYADRARKIKNKPIVNI DPQTAE
 LNHLKQVQQLQVLL LQAHGGTLPGSITVPESENLSLMEKNQSLVEENEKLSRGLSEAAGQTAQMLERI
 ILTEQANEKMNAKLEELRQHAACKLDLQKL VETLEDQELKENVEIICNLQQLITQLSDET VACMAAAIDT
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 IKELELEVINLQKEKEELVLELQTAKKDANQAKL SERRRKR LQELGQIADLKKKLNEQSKLLKLKESTE
 RTVSKLNQEI RMMKNQRVQLMRQMKEDA EKFRQWKQKDKDEVIQLKERDRKRQYELLKLERNFQKQSNVL
 RRKTEEAANKRLKDALQKQREVADKRKETQSRGMEGT AARVKNWLGNEIEVMVSTEEAKRHLNDLLED
 RKILAQDVAQLKEKKESENGENPPP KLRRTFSLTEVRGQVSESEDSITKQIESLETEMEFRSAQIADLQOK
 LLDAESED RPKQRWENIATILEAKCAL KYLIGELVSSKI QVSKLESSLKQSKTSCADMQKMLFEERNHFA
 EJETELQAE LVRMEQQHQEKVLYLLSQLQSQMAEKQLEESVSEKEQQLLSTLKCQDEELEKMREVCQN
 QQLRENEI IKQKLTLLQVASRQKHLPKDTLLSPDSSFEYVPPKPKPSRVKEKFL EQSMDIEDLYKCEH
 SVNEHEDGDGDDDEGDDEEWKPTLKVSRKNIQGCSCKGWGNKQCGCRKQKSDCGVDCDDPTKCRNR
 QQGKDSLGTVERTQDSEGSFKLEDPTVTPGLSFFNPVCATPNSKILKEMCDVEQVL SKKTPPAPSPFDL
 PELKHVATEYQENKAPGKKKKRALASNTSFFSGCSPIEEEAH

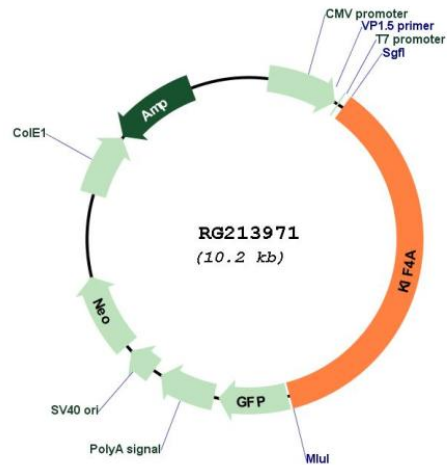
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_012310

ORF Size: 3696 bp

OTI Disclaimer: 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).

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_012310.4](#), [NP_036442.3](#)

RefSeq Size: 4388 bp

RefSeq ORF: 3699 bp

Locus ID: 24137

UniProt ID: [O95239](#)

Cytogenetics: Xq13.1

Domains: kinesin

Protein Families: Druggable Genome

Gene Summary: 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]