

## Product datasheet for RC234032

### alpha Tubulin (TUBA1A) (NM\_001270400) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	alpha Tubulin (TUBA1A) (NM_001270400) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	TUBA1A
Synonyms:	B-ALPHA-1; LIS3; TUBA3
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RC234032 representing NM_001270400 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGCCAAGTGACAAGACCATTGGGGGAGGAGATGATTCTTCAACACCTTCTTCAGTGAGACGGGGGCTG  
GCAAGCATGTGCCCCGGCAGTGTGGTAGACTTGGAAACCCACAGTCATTGATGAAGTTCGCACTGGCAC  
CTACCGCCAGCTCTCCACCCTGAGCAACTTATCACAGGCAAAGAAGATGCTGCCAATAACTATGCCCGA  
GGGCACTACACCATTGGCAAGGAGATCATTGACCTCGTGTGGACCGAATTCGCAAGCTGGCCGACCACT  
GCACGGGTCTCCAGGGCTTCTTGGTTTTCCACAGCTTTGGTGGGGGAAGTGGTTCTGGGTTACCTCGCT  
GCTCATGGAACGTCTCTCAGTTGATTATGGCAAGAAGTCCAAGCTGGAGTTCTCTATTTACCCGGCGCCC  
CAGGTTTCCACAGCTGTAGTTGAGCCCTACAACCTCCATCCTCACCACCCACACCACCTGGAGCACTCTG  
ATTGTGCCTTCATGGTAGACAATGAGGCCATCTATGACATCTGTCGTAGAAACCTCGATATTGAGCGTCC  
AACCTATACTAACCTGAATAGGTTAATAGGTCAAATTGTGCTCCATCACTGCTTCCCTGAGATTTGAT  
GGAGCCCTGAATGTTGACCTGACAGAATCCAGACCAACCTGGTGCCTATCCCCGCATCCACTTCCCTC  
TGGCCACATATGCCCTGTCATCTCTGCTGAGAAAGCTACCATGAACAGCTTTCTGTAGCAGAGATCAC  
CAATGCTTGTCTTTGAGCCAGCCAACCAGATGGTGAATGTGACCTCGCCATGGTAAATACATGGCTTGC  
TGCTGTGTACCGTGGTACGTTGGTCCCAAAGATGTCAATGCTGCCATTGCCACCATCAAGACCAAGC  
GTACCATCCAGTTTGTGGATTGGTGCCCACTGGCTTCAAGGTTGGCATCAACTACCAGCCTCCCACTGT  
GGTGCCTGGTGGAGACCTGGCCAAGGTACAGAGAGCTGTGTGCATGCTGAGCAACACCACAGCCATTGCT  
GAGGCCTGGGCTCGCCTGGACCACAAGTTTACCTGATGTATGCCAAACGTGCCTTTGTTCACTGGTACG  
TTGGGGAGGGATGGAGGAAGGTGAGTTTTAGAGGCCCGTGAGGACATGGCTGCCCTTGAGAAGGATTA  
TGAGGAGGTTGGTGTGGATTCTGTTGAAGGAGAGGGTGAGGAAGAAGGAGAGGAATAC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC234032 representing NM\_001270400  
 Red=Cloning site Green=Tags(s)

MPSDKTIGGGDDSFNTFFSETGAGKHVPRAVFDVLEPTVIDEVRTGTYRQLFHPEQLITGKEDAANNYAR  
 GHYITIGKEIIDLVLDRIKRLADQCTGLQGFLVFHSFGGGTSGFTSLLMERLSVDYGGKSKLEFSIYPAP  
 QVSTAVVEPYNSILTHTTLEHSDCAFMDNEAIYDICRRNLDIERPTYNLNRLIGQIVSSITASLRFD  
 GALNVDLTEFQTNLVPYPRIFPLATYAPVISA EKAYHEQLSVAEITNACFEPANQMVKCDPRHGKYMAL  
 CLLYRGDVVPKDVNAAIATIKTKRTIQFVDWCPTGFKVGINYQPPTVVPGGDLAKVQRVAVCMLSNNTAIA  
 EAWARLDHKFDL MYAKRAVHWYVGEEMEEGEFSEAREDMAALEKDYEEVGVDSVEGEGEEEGEEY

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

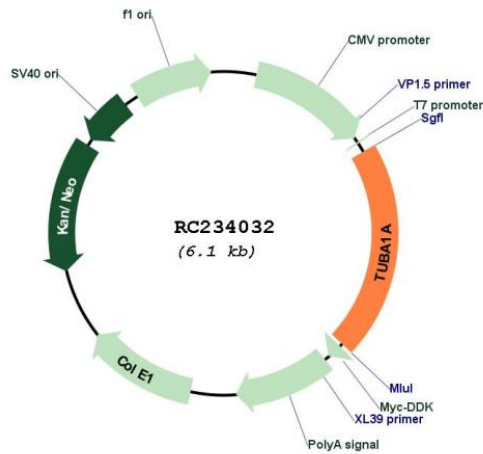
Restriction Sites:

Sgfl-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM\_001270400

<b>ORF Size:</b>	1248 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_001270400.1</a> , <a href="#">NP_001257329.1</a>
<b>RefSeq Size:</b>	2018 bp
<b>RefSeq ORF:</b>	1251 bp
<b>Locus ID:</b>	7846
<b>UniProt ID:</b>	<a href="#">Q71U36</a>
<b>Cytogenetics:</b>	12q13.12
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Gap junction, Pathogenic Escherichia coli infection
<b>MW:</b>	46.7 kDa

**Gene Summary:**

Microtubules of the eukaryotic cytoskeleton perform essential and diverse functions and are composed of a heterodimer of alpha and beta tubulins. The genes encoding these microtubule constituents belong to the tubulin superfamily, which is composed of six distinct families. Genes from the alpha, beta and gamma tubulin families are found in all eukaryotes. The alpha and beta tubulins represent the major components of microtubules, while gamma tubulin plays a critical role in the nucleation of microtubule assembly. There are multiple alpha and beta tubulin genes, which are highly conserved among species. This gene encodes alpha tubulin and is highly similar to the mouse and rat Tuba1 genes. Northern blot studies have shown that the gene expression is predominantly found in morphologically differentiated neurologic cells. This gene is one of three alpha-tubulin genes in a cluster on chromosome 12q. Mutations in this gene cause lissencephaly type 3 (LIS3) - a neurological condition characterized by microcephaly, intellectual disability, and early-onset epilepsy caused by defective neuronal migration. Alternative splicing results in multiple transcript variants encoding distinct isoforms. [provided by RefSeq, Jul 2017]