

Product datasheet for **RG204867**

Septin 2 (SEPT2) (NM_004404) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Septin 2 (SEPT2) (NM_004404) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Septin 2
Synonyms:	DIFF6; hNedd5; NEDD-5; NEDD5; Pnutl3; SEPT2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG204867 representing NM_004404 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGC**C

ATGTCTAAGCAACAGCCAACCTCAGTTTATAAATCCAGAAACACCTGGCTATGTTGGATTTGCAAACCTCC
CCAATCAAGTTCACCGAAAATCAGTGAAAAAGGTTTTGAGTTCACACTGATGGTGGTCCGGTGAATCAGG
TCTAGGAAAATCGACTCTATAACAGCCTATTCCTAACTGATCTGTACCCAGAAAGAGTCATATCTGGA
GCAGCAGAAAAAATTGAAAGAACTGTCCAGATTGAGGCTTCAACTGTTGAAATTGAAGAGCGAGGGGTCA
AGCTACGCCTGACAGTGGTAGATACCCCTGGCTATGGTGACGCTATCAACTGCAGAGATTGTTTTAAGAC
AATTATCTCTATATTGATGAGCAATTTGAGAGGTACCTGCATGACGAGAGCGGCTTGAACAGGCGGCAC
ATCATTGATAATAGGGTGCAATTGTTGCTTTACTTTATTTACCTTTTGGACATGGACTTAAAGCCCTTAG
ATGTGGCGTTTATGAAGCAATACACAACAAGGTGAATATTGTGCCTGTCATTGCAAAAGCTGACTCT
CACCTGAAGGAACGGGAGCGGCTGAAGAAAAGGATTCTGGATGAAATTGAAGAACATAACATCAAAATC
TATCACTTACCTGATGCAGAATCAGATGAAGATGAAGATTTTAAAGAGCAGACTAGACTTCTCAAGGCTA
GCATCCCATTCTCTGTGGTTGGATCCAATCAGTTGATTGAAGCCAAGGAAAGAAAGGTGAGAGCCCGCT
CTACCCCTGGGGTGTGTGGAAGTGGAGAACCAGAGCACAATGACTTTCTGAAGCTGAGAACCATGCTC
ATCACCCACATGCAGATCTCCAGGAGGTGACCCAGGACCTTATTGAAAACCTCCGTTCTGAGAGAC
TCAAGAGAGGCGGCAGGAAAGTGGAGAATGAGGACATGAATAAAGACCAGATCTTGCTGGAAAAAGAAC
TGAGCTCCGCGCATGCAAGAGATGATTGCAAGGATGCAGGCGCAGATGCAGATGCAGATGCAGGCGGG
GATGGCGATGGCGGGCTCTCGGCACACGTG

ACGGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >RG204867 representing NM_004404
 Red=Cloning site Green=Tags(s)

MSKQQPTQFINPETPGYVGFANLPNQVHRKSVKKGFEFTLMVVGESGLGKSTLINSFLTDLYPERVISG
 AAEKIERTVQIEASTVEIEERGVLRLTVVDTPGYGDAINCRDCFKTIIISYIDEQFERYLHDESGLNRRH
 IIDNRVHCCFYFISPFHGHLKPLDVAFMKAIHNKVNIVPVIKADTLTLKERERLKKRILDEIEEHNKI
 YHLPDAESDEDEDFKEQTRLLKASIPFSVVGSNQLIEAKGKKVRGRLYPWGVVEVENPEHNDFLKLRTML
 ITHMQDLQEVTDLHYENFRSERLKRGGKRVENEDMNKDQILLEKEAELRRMQEMIARMQAQMOMQGG
 DGDGGALGHHV

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_004404

ORF Size: 1083 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_004404.3](#), [NP_004395.1](#)

RefSeq Size: 3311 bp

RefSeq ORF: 1086 bp

Locus ID: 4735

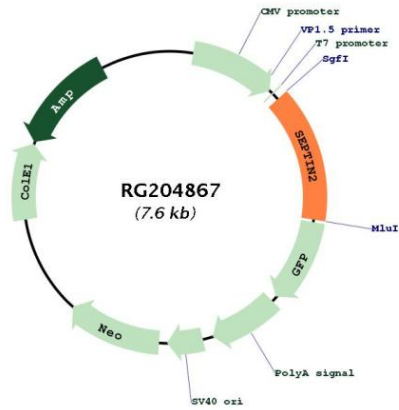
UniProt ID: [Q15019](#)

Cytogenetics: 2q37.3

Domains: GTP_CDC

Gene Summary: Filament-forming cytoskeletal GTPase. Forms a filamentous structure with SEPTIN12, SEPTIN6, SEPTIN2 and probably SEPTIN4 at the sperm annulus which is required for the structural integrity and motility of the sperm tail during postmeiotic differentiation (PubMed:25588830). Required for normal organization of the actin cytoskeleton. Plays a role in the biogenesis of polarized columnar-shaped epithelium by maintaining polyglutamylated microtubules, thus facilitating efficient vesicle transport, and by impeding MAP4 binding to tubulin. Required for the progression through mitosis. Forms a scaffold at the midplane of the mitotic spindle required to maintain CENPE localization at kinetochores and consequently chromosome congression. During anaphase, may be required for chromosome segregation and spindle elongation. Plays a role in ciliogenesis and collective cell movements. In cilia, required for the integrity of the diffusion barrier at the base of the primary cilium that prevents diffusion of transmembrane proteins between the cilia and plasma membranes: probably acts by regulating the assembly of the tectonic-like complex (also named B9 complex) by localizing TMEM231 protein. May play a role in the internalization of 2 intracellular microbial pathogens, *Listeria monocytogenes* and *Shigella flexneri*. [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for RG204867