

## Product datasheet for **SC116166**

### **RAN (NM\_006325) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	RAN (NM_006325) Human Untagged Clone
Tag:	Tag Free
Symbol:	RAN
Synonyms:	ARA24; Gsp1; TC4
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF sequence for NM_006325 edited ATGGCTGCGCAGGGAGAGCCCCAGTCCAGTTCAAACTTGTATTGGTTGGTGATGGTGGT ACTGGAAAAACGACCTTCGTGAAACGTCATTTGACTGGTGAATTTGAGAAGAAGTATGTA GCCACCTTGGGTGTTGAGGTTTCATCCCCTAGTGTCCACACCAACAGAGGACCTATTAAG TTCAATGTATGGGACACAGCCGCCAGGAGAAATTCGGTGGACTGAGAGATGGCTATTAT ATCCAAGCCAGTGTGCCATCATAATGTTTGTGTAACATCGAGAGTTACTTACAAGAAT GTGCCTAACTGGCATAGAGATCTGGTACGAGTGTGTGAAAACATCCCATTGTGTTGTGT GGCAACAAAGTGGATATTAAGGACAGGAAAGTGAAGGCGAAATCCATTGTCTTCCACCGA AAGAAGAATCTTCAGTACTACGACATTTCTGCCAAAAGTAACTACAACCTTAAAAAGCCC TTCCTCTGGCTTGTAGGAAGCTCATTGGAGACCCTAACTTGAATTTGTTGCCATGCCT GCTCTCGCCCCACCAGAAGTTGTCATGGACCCAGCTTTGGCAGCACAGTATGAGCACGAC TTAGAGGTTGCTCAGACAACCTGCTCTCCCGGATGAGGATGATGACCTGTGA



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**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_006325 unedited  
 AAGTTAGATTTGTATACGACTTATATAGGCGGCCGCGCAATTCGCACGAGGGCTCCGCC  
 ATCTTTCCAGCCTCAGTCGGACGGGCGCGGAGACGCTTCTGGAAGGAACGCCGCGATGGC  
 TGCGCAGGGAGAGCCCCAGGTCCAGTTCAAACTTGTATTGGTTGGTGATGGTGGTACTGN  
 GAAAAACGACCTTCGTGAAACGTCAATTTGACTGGTGAATTTGAGAAGAAGTATGTAGCCA  
 CCTTGGGTGTTGAGGTTCCCTAGTGTCCACACCAACAGAGGACCTATTAAGTTCA  
 ATGTATGGGACACAGCCGGCCAGGAGAAATTCGGTGGACTGAGAGATGGCTATTATATCC  
 AAGCCCAGTGTGCCATCATAATGTTTGTGTAACATCGAGAGTTACTTACAAGAATGTGC  
 CTAAGTGGCATAGAGATCTGGTACGAGTGTGTGAAAACATCCCCATTGTGTTGTGTGGCA  
 ACAAAGTGGATATTAAGGACAGGAAAGTGAAGGCGAAATCCATTGTCTTCCACCGAAAGA  
 AGAATCTTCAGTACTACGACATTTCTGCCAAAAGTAACTACAACCTTTGAAAAGCCCTTCC  
 TCTGGCTTGTAGGAAGCTCATTGGAGACCCTAACTTGAATTTGTTGCCATGCCTGCTC  
 TCGCCCCACCAGAAGTTGTCATGGACCCAGCTTTGGCAGCACAGTATGAGCACGACTTAG  
 AGGTTGCTCAGACNACTGCTCTCCGGATGAAGATGATGACCTGTGAGAATGAAGCTGGA  
 GCCCAGCGTCAGAAGTCTAGTTTTATAGGCAGCTGTCTGTGATGTCAGCGGTGCAGCGT  
 GTGTGCCACCTCATTATTATCTAGCTAAGCGAACATGTGCTTCATCTGTGGGATGCTGAA  
 AGAGATGAGTGGGCA

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_006325 unedited  
 ACTTCCAGGGCCGNATAGCACTGGGGAGGGTACAGGGATGCCACCCGGGATCTGTTC  
 AGGAAACAGCTATGACCGCGCCGCAATCTAGAGTCGAGNNNTTTTTTTTTTTTTTTTTT  
 TTTTTTTTTTTTTTTTTTTTATTGGAAATACAACCTTATTCTGATTCTAAACGAAAAGGA  
 ATGGGAATGACAGTAACAAACAAGATTTACCAGTGAATATTGGGATGTGACTGCAGCAG  
 TCTTTTTTTTGAACCTCAAGGAATCAACTGCGTTCCAAAACAGCTAAATTTGCAGTCCA  
 AACAAATGAAGTTATTTTTAAACTGCCACATTCCTCCGAGCCCACTATTTTTCTTTAG  
 CATCCCACAGATGAAGCACATGTTCCGCTTAGCTAAATAATGAGGGGGCACACACC  
 TGNNNCGCTGACATCACAGGACAGCTGCCTATAAACTAGACTTCTGACGCTGGGCTCCA  
 GCTTCATTCTCACAGGTATCATCCTCATCCGGGAGAGCAGTTGTCTGAGCAACCTCTAA  
 GTCGTGCTCATACTGTGCTGCCAAAGCTGGGTCCATGACAACCTTCTGGTGGGGGCGAGAG  
 CAGGCATGGCAACAAATCCAAGTTAGGGGTCTCCAATGANGCTTCTAGCAAGCCAGAG  
 GAAGAGGCTTTNCANNAGTTGTAGTTTACTTTTTTGGCAGATATGNNTCGTAGTACTGAAG  
 ATTCTTCTTTTCGGTGGAGACAATGGATTNTCGCCTTCTNNNNCCTGTCTTTATATT  
 CCACTTTTGTGGCCACAACACATGGNGGAATGTTTTCAACCACTCGTACCAGATCTCTA  
 TGCCAGTATGCACATTCTGAAGTACTCTNGATGTTTCATCAAACCTATGATGGCACACTGG  
 CTTGATATATAGCCTCTTTCAGCCACGATTTTTCTGGNCGGCTGTGNCCATCATTGACTT  
 ATTAGGCN

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_006325

**Insert Size:**

1090 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](mailto: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](#)

**OTI Annotation:** no

**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\\_006325.2](#), [NP\\_006316.1](#)

**RefSeq Size:** 1656 bp

**RefSeq ORF:** 651 bp

**Locus ID:** 5901

**UniProt ID:** [P62826](#)

**Cytogenetics:** 12q24.33

**Domains:** ras, RAN, RAS, RHO, RAB

**Protein Families:** Druggable Genome, Transcription Factors

**Gene Summary:**

RAN (ras-related nuclear protein) is a small GTP binding protein belonging to the RAS superfamily that is essential for the translocation of RNA and proteins through the nuclear pore complex. The RAN protein is also involved in control of DNA synthesis and cell cycle progression. Nuclear localization of RAN requires the presence of regulator of chromosome condensation 1 (RCC1). Mutations in RAN disrupt DNA synthesis. Because of its many functions, it is likely that RAN interacts with several other proteins. RAN regulates formation and organization of the microtubule network independently of its role in the nucleus-cytosol exchange of macromolecules. RAN could be a key signaling molecule regulating microtubule polymerization during mitosis. RCC1 generates a high local concentration of RAN-GTP around chromatin which, in turn, induces the local nucleation of microtubules. RAN is an androgen receptor (AR) coactivator that binds differentially with different lengths of polyglutamine within the androgen receptor. Polyglutamine repeat expansion in the AR is linked to Kennedy's disease (X-linked spinal and bulbar muscular atrophy). RAN coactivation of the AR diminishes with polyglutamine expansion within the AR, and this weak coactivation may lead to partial androgen insensitivity during the development of Kennedy's disease. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) represents the longest transcript and encodes the longer isoform (1). Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.