

## Product datasheet for MR219470

### Ran (NM\_009391) Mouse Tagged ORF Clone

#### Product data:

Product Type: Expression Plasmids  
Product Name: Ran (NM\_009391) Mouse Tagged ORF Clone  
Tag: Myc-DDK  
Symbol: Ran  
Mammalian Cell Selection: Neomycin  
Vector: pCMV6-Entry (PS100001)  
E. coli Selection: Kanamycin (25 ug/mL)  
ORF Nucleotide Sequence: >MR219470 representing NM\_009391  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCCGCCAGGGAGAGCCGCAGGTCCAGTTCAGCTCGTCCTGGTGGGCGACGGCGGCACCGGGAAGA  
CAACCTTCGTGAAGCGCCACTTGACGGGCGAGTTTGAGAAGAAGTATGTAGCCACCCTGGGCGTGGAGGT  
GCACCCGCTCGTCTTCCATACCAACAGAGGACCCATCAAGTTCACGTGTGGACACGGCCGGCCAGGAG  
AAGTTCGGGGGCTGCGGATGGCTACTACATCCAAGCCAGTGTGCCATTATAATGTTGATGTAACCT  
CAAGAGTTACTTACAAGAATGTACTAAGTGGCATAGAGATCTGGTACGAGTGTGTGAAACATCCCCAT  
TGTATTGTGTGGCAACAAGTGGATATTAAGACAGGAAAGTGAAGGCAAATCTATTGTCTCCACCGG  
AAGAAGAATCTTCAGTACTATGACATTTCTGCCAAAAGTAACTACAACCTTTGAAAAGCCTTCTCTGGC  
TTGCCAGAAAGCTCATTGGAGATCCTAACTGGAGTTTGTGGCATGCCTGCTCTTGCCCCACCTGAGGT  
GGTCATGGACCCAGCTTTGGCAGCACAGTACGAGCATGATTTAGAGGTTGCTCAGACGACTGCTCTCCCA  
GATGAGGATGATGACCTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR219470 representing NM\_009391  
Red=Cloning site Green=Tags(s)

MAAQGEPQVQFKLVVLDGGTGKTTFFVCRHLTGEFEKKYVATLGVEVHPLVFHTNRGPIKFNVWDTAGQE  
KFGGLRDGYIIQAQCAIIMFDVTSRVTYKNVFNWHRDLVRVCENIPIVLCGNKVDIKDRKVKAKSIVFHR  
KKNLQYYDISAKSNYNFEKPFLLWARKLIGDPNLEFVAMPALAPPEVMDPALAAQYEHDLVAQTALP  
DEDDDL

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

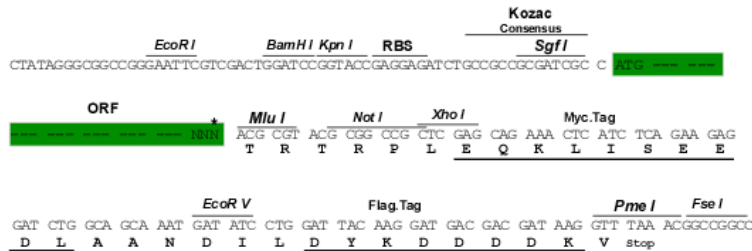
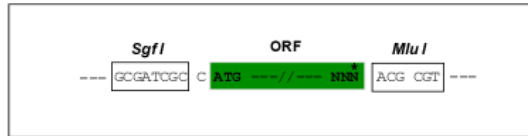


**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9038\\_c03.zip](https://cdn.origene.com/chromatograms/mm9038_c03.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



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

**ACCN:** NM\_009391

**ORF Size:** 648 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:** 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\\_009391.3](#), [NP\\_033417.1](#)

**RefSeq Size:** 2288 bp

**RefSeq ORF:** 651 bp

**Locus ID:** 19384

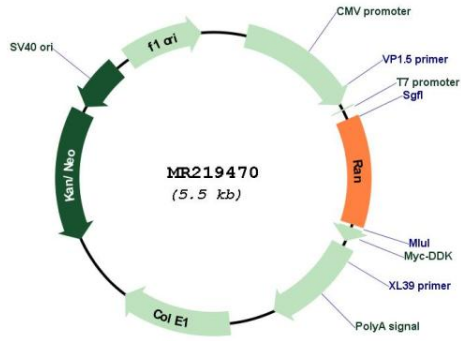
**UniProt ID:** [P62827](#)

**Cytogenetics:** 5 G1.3

**MW:** 24.9 kDa

**Gene Summary:** GTPase involved in nucleocytoplasmic transport, participating both to the import and the export from the nucleus of proteins and RNAs. Switches between a cytoplasmic GDP- and a nuclear GTP-bound state by nucleotide exchange and GTP hydrolysis. Nuclear import receptors such as importin beta bind their substrates only in the absence of GTP-bound RAN and release them upon direct interaction with GTP-bound RAN, while export receptors behave in the opposite way. Thereby, RAN controls cargo loading and release by transport receptors in the proper compartment and ensures the directionality of the transport. Interaction with RANBP1 induces a conformation change in the complex formed by XPO1 and RAN that triggers the release of the nuclear export signal of cargo proteins. RAN (GTP-bound form) triggers microtubule assembly at mitotic chromosomes and is required for normal mitotic spindle assembly and chromosome segregation. Required for normal progress through mitosis. The complex with BIRC5/survivin plays a role in mitotic spindle formation by serving as a physical scaffold to help deliver the RAN effector molecule TPX2 to microtubules. Acts as a negative regulator of the kinase activity of VRK1 and VRK2. Enhances AR-mediated transactivation.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR219470