

Product datasheet for **MG219470**

Ran (NM_009391) Mouse Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: Ran (NM_009391) Mouse Tagged ORF Clone
Tag: TurboGFP
Symbol: Ran
Mammalian Cell Selection: Neomycin
Vector: pCMV6-AC-GFP (PS100010)
E. coli Selection: Ampicillin (100 ug/mL)
ORF Nucleotide Sequence: >MG219470 representing NM_009391
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCGCCAGGGAGAGCCGCAGGTCCAGTTCAGCTCGTCCTGGTGGGCGACGGCGGCACCGGGAAGA
CAACCTTCGTGAAGCGCCACTTGACGGGCGAGTTTGAGAAGAAGTATGTAGCCACCCTGGGCGTGGAGGT
GCACCCGCTCGTCTTCCATACCAACAGAGGACCCATCAAGTTCACGTGTGGACACGGCCGGCCAGGAG
AAGTTCGGGGCCCTGCGGATGGCTACTACATCCAAGCCAGTGTGCCATTATAATGTTGATGTAACCT
CAAGAGTTACTTACAAGAATGTACCTAAGTGGCATAGAGATCTGGTACGAGTGTGTGAAAACATCCCAT
TGTATTGTGTGGCAACAAGTGGATATTAAGACAGGAAAGTGAAGGCAAATCTATTGTCTTCCACCGG
AAGAAGAATCTTCACTACTATGACATTTCTGCCAAAAGTAACTACAACCTTGAAGCCTTTCTCTGGC
TTGCCAGAAAGCTCATTGGAGATCCTAAGTGGAGTTTGTGCCATGCCTGCTCTTGCCCACTGAGGT
GGTCATGGACCCAGCTTTGGCAGCACAGTACGAGCATGATTTAGAGGTTGCTCAGACGACTGCTCTCCCA
GATGAGGATGATGACCTG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG219470 representing NM_009391
Red=Cloning site Green=Tags(s)

MAAQGEPQVQFKLVLVGDGGTGKTFVKRHLTGEFEKKYVATLGVEVHPLVFHTNRGPIKFNVWDTAGQE
KFGGLRDGYIIQAQCAIIMFDVTSRVTYKNVFNWHRDLVRVCENIPIVLCGNKVDIKDRKVKAKSIVFHR
KKNLQYYDISAKSNYNFEKPFLLWARKLIGDPNLEFVAMPALAPPEVMDPALAAQYEHDLVAQTTALP
DEDDDL

TRTRPLE - GFP Tag - V

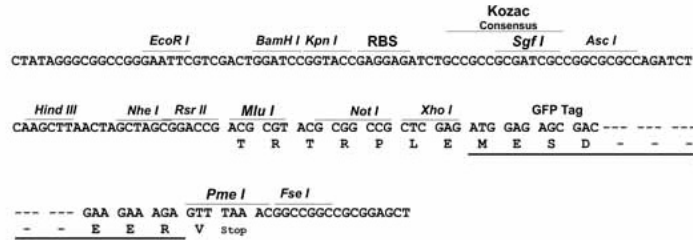
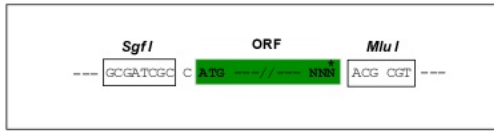


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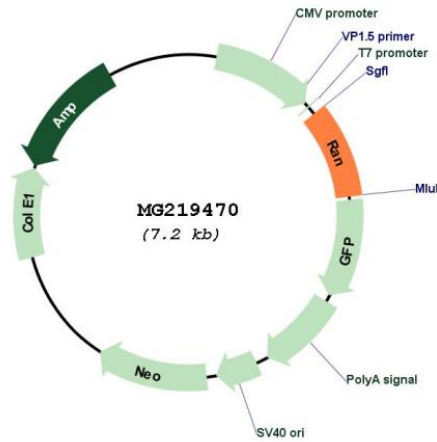
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



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 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

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]