

## Product datasheet for **MG202190**

### Rab7 (NM\_009005) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Rab7 (NM\_009005) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Rab7  
**Synonyms:** Rab7a  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG202190 representing NM\_009005  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGACCTCTAGGAAGAAAGTGTGCTGAAGTCATCATCTGGGGACTCTGGTGTGGAAAGACCTCTC  
TCATGAACCAAGTATGTGAACAAGAAGTTCAGTAACCAAGTACAAAGCCACAATAGGAGCGGACTTTCTGAC  
CAAGGAGGTGATGGTGGACGACAGACTTGTACCATGCAGATCTGGACACAGCCGGTCAAGAACGGTTC  
CAGTCTCTTGGTGGCCTTCTACAGAGGTGCAGATTGCTGTGTCTGGTGTGGATGTGACTGCCCCCA  
ACACTTTCAAACCCCTCGACAGCTGGAGAGACGAGTTTCTCATCCAGCCAGCCCGGGATCCCGAGAA  
CTTCCCTTTTGTGTGTTGGGAAACAAGATTGACCTGGAAAACAGACAAGTGGCCACAAAGAGGGCACAG  
GCTTGGTGCTACAGCAAAAACAATTCCTTACTTCGAGACCAGTGCCAAGGAGGCCATCAATGTGGAGC  
AGGCTTCCAGACAATTGCTCGGAATGCCCTTAAACAGGAAACAGAAGTGGAACTGTACAATGAATTCCC  
TGAACCCATCAAAGTGGACAAGAATGACCGGGCAAGGCCTCCGAGAAAAGCTGCAGTTGT

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >MG202190 representing NM\_009005  
Red=Cloning site Green=Tags(s)

MTSRKKVLLKVIILGDSGVGKTSLMNQYVNNKFSNQYKATIGADFLTKEVMVDDRLVTMQIWDTAGQERF  
QSLGVAFYRGADCCVLVFDVTAPNTFKTLDSWRDEFLLIQASPRDPENFPFVVLGNKIDLENRQVATKRAQ  
AWCYSKNNIPYFETSAKEAINVEQAFQTIARNALKQETEVELYNEFFPEPIKLDKNDRAKASAESCS

**TRTRPLE** - GFP Tag - V

**Restriction Sites:** Sgfl-MluI



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**Cloning Scheme:**


**ACCN:** NM\_009005

**ORF Size:** 621 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\\_009005.3](#), [NP\\_033031.2](#)

**RefSeq Size:** 2089 bp

**RefSeq ORF:** 624 bp

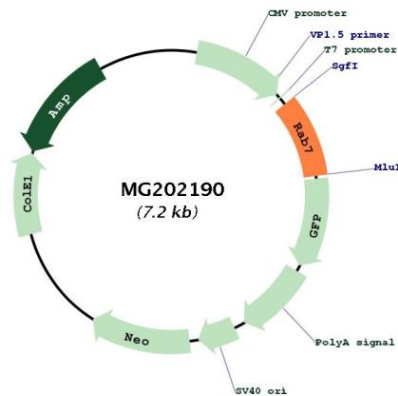
**Locus ID:** 19349

**UniProt ID:** [P51150](#)

**Cytogenetics:** 6 39.13 cM

**Gene Summary:**

Key regulator in endo-lysosomal trafficking. Governs early-to-late endosomal maturation, microtubule minus-end as well as plus-end directed endosomal migration and positioning, and endosome-lysosome transport through different protein-protein interaction cascades. Plays a central role, not only in endosomal traffic, but also in many other cellular and physiological events, such as growth-factor-mediated cell signaling, nutrient-transporter mediated nutrient uptake, neurotrophin transport in the axons of neurons and lipid metabolism. Also involved in regulation of some specialized endosomal membrane trafficking, such as maturation of melanosomes, pathogen-induced phagosomes (or vacuoles) and autophagosomes. Plays a role in the maturation and acidification of phagosomes that engulf pathogens, such as *S.aureus* and *Mycobacteria*. Plays a role in the fusion of phagosomes with lysosomes. Plays important roles in microbial pathogen infection and survival, as well as in participating in the life cycle of viruses. Microbial pathogens possess survival strategies governed by RAB7A, sometimes by employing RAB7A function (e.g. *Salmonella*) and sometimes by excluding RAB7A function (e.g. *Mycobacterium*). In concert with RAC1, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts. Controls the endosomal trafficking and neurite outgrowth signaling of NTRK1/TRKA. Regulates the endocytic trafficking of the EGF-EGFR complex by regulating its lysosomal degradation (By similarity). Involved in the ADRB2-stimulated lipolysis through lipophagy, a cytosolic lipase-independent autophagic pathway (PubMed:23708524). Required for the exosomal release of SDCBP, CD63 and syndecan (By similarity).[UniProtKB/Swiss-Prot Function]

**Product images:**

Circular map for MG202190