

Product datasheet for **RN204754**

Rac1 (NM_134366) Rat Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | Rac1 (NM_134366) Rat Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Rac1 |
| Mammalian Cell Selection: | Neomycin |
| Vector: | pCMV6-Entry (PS100001) |
| E. coli Selection: | Kanamycin (25 ug/mL) |
| Fully Sequenced ORF: | >RN204754 representing NM_134366 Red=Cloning site Blue=ORF Orange=Stop codon |

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGCAGGCCATCAAGTGTGTGGTGGTGGGAGACGGAGCCGTTGGTAAACCTGCCTGCTCATCAGTTACA
 CGACCAATGCGTTCCTGGAGAGTACATCCCCACCGTCTTTGACAACTATTCTGCCAATGTTATGGTAGA
 TGGAAAACCAAGTGAATCTGGGCCTCTGGGACACAGCTGGACAGGAAGATTATGACAGACTGCGTCCCCTC
 TCCTACCCGCAACAGACGTGTTCTTAATTTGCTTTTCCCTTGAGTCTGCATCATTTGAAAATGTCC
 GTGCAAAAGTGGTATCCTGAAGTACGACACCACTGTCCCAATACTCCCATCATCCTAGTGGGACGAAGCT
 TGATCTTAGGGATGATAAGGACACGATTGAGAAGCTGAAGGAGAAGAAGCTGACTCCCATACCTACCCG
 CAGGGGCTAGCCATGGCGAAAGAGATCGGTGCTGTCAAATACCTGGAGTGCTCAGCACTCACACAGCGAG
 GACTCAAGACAGTGTGATGAAGCTATCCGAGCCGTTCTCTGTCCCCTCCTGTTAAGAAGAGGAAGAG
 AAAATGCCTGCTGTTG**TAA**

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

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| Restriction Sites: | SgfI-MluI |
| ACCN: | NM_134366 |
| Insert Size: | 579 bp |
| OTI Disclaimer: | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |


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| 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: | <ol style="list-style-type: none"> 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: | <u>NM_134366.1, NP_599193.1</u> |
| RefSeq Size: | 792 bp |
| RefSeq ORF: | 579 bp |
| Locus ID: | 363875 |
| UniProt ID: | <u>Q6RUV5</u> |
| Cytogenetics: | 12p11 |
| Gene Summary: | <p>Plasma membrane-associated small GTPase which cycles between active GTP-bound and inactive GDP-bound states. In its active state, binds to a variety of effector proteins to regulate cellular responses such as secretory processes, phagocytosis of apoptotic cells, epithelial cell polarization, neurons adhesion, migration and differentiation, and growth-factor induced formation of membrane ruffles (PubMed:16040606, PubMed:16549782). Rac1 p21/rho GDI heterodimer is the active component of the cytosolic factor sigma 1, which is involved in stimulation of the NADPH oxidase activity in macrophages. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly. Stimulates PKN2 kinase activity (By similarity). In concert with RAB7A, plays a role in regulating the formation of RBs (ruffled borders) in osteoclasts (PubMed:16040606). In glioma cells, promotes cell migration and invasion (PubMed:20696765). In podocytes, promotes nuclear shuttling of NR3C2; this modulation is required for a proper kidney functioning (PubMed:19029984). Required for atypical chemokine receptor ACKR2-induced LIMK1-PAK1-dependent phosphorylation of cofilin (CFL1) and for up-regulation of ACKR2 from endosomal compartment to cell membrane, increasing its efficiency in chemokine uptake and degradation (By similarity). In neurons, is involved in dendritic spine formation and synaptic plasticity (PubMed:25498153). In synapses, seems to mediate the regulation of F-actin cluster formation performed by SHANK3 (PubMed:24089484).[UniProtKB/Swiss-Prot Function]</p> |