

## Product datasheet for **SC124118**

### ROCK1 (NM\_005406) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** ROCK1 (NM\_005406) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** ROCK1  
**Synonyms:** P160ROCK; ROCK-I  
**Mammalian Cell Selection:** None  
**Vector:** [pCMV6-XL5](#)  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene ORF sequence for NM\_005406 edited  
 ATGTCGACTGGGGACAGTTTTGAGACTCGATTTGAAAAAATGGACAACCTGCTGCGGGAT  
 CCCAAATCGGAAGTGAATTCGGATTGTTTGTCTGGATGGATTGGATGCTTTGGTATATGAT  
 TTGGATTTTCTCCTGCCTTAAGAAAAACAAAAATATTGACAACTTTTTAAGCAGATATAAA  
 GACACAATAAATAAATCAGAGATTTACGAATGAAAGCTGAAGATTATGAAGTAGTGAAG  
 GTGATTGGTAGAGGTGCATTTGGAGAAGTTCAATTGGTAAGGCATAAATCCACCAGGAAG  
 GTATATGCTATGAAGCTTCTCAGCAAAATTTGAAATGATAAAGAGATCTGATTCTGCTTTT  
 TTCTGGGAAGAAAGGGACATCATGGCTTTTGCCAACAGTCCTGGGTTGTTTCAGCTTTTT  
 TATGCATTCCAAGATGATCGTTATCTCTACATGGTGATGGAATACATGCCTGGTGGAGAT  
 CTTGTAACCTTAATGAGCAACTATGATGTGCCTGAAAAATGGGCACGATTCTATACTGCA  
 GAAGTAGTTCTTGCAATTGGATGCAATCCATTCCATGGGTTTTATTACAGAGATGTGAAG  
 CCTGATAACATGCTGCTGGATAAATCTGGACATTTGAAGTTAGCAGATTTTGGTACTTGT  
 ATGAAGATGAATAAGGAAGGCATGGTACGATGTGATACAGCGGTTGGAACACCTGATTAT  
 ATTTCCCTGAAATATAAATCCCAAGGTGGTGTGTTATTATGGAAGAGAATGTGAC  
 TGGTGGTGGGTTGGGATTTTTATACGAAATGCTTGTAGGTGATACACCTTTTTATGCA  
 GATTCTTTGGTTGGAACCTACAGTAAAATTAATGAACATAAAAAATCACTTACCTTTCT  
 GATGATAATGACATATCAAAAGAAGCAAAAAACCTTATTTGTGCCTTCTTACTGACAGG  
 GAAGTAGGTTAGGGCGAAATGGTGTAGAAGAAATCAAACGACATCTCTTCTTCAAAAAAT  
 GACCGATGGGCTTGGGAAACGCTCCGAGACACTGTAGCACCAGTTGTACCCGATTTAAGT  
 AGTGACATTGATACTAGTAATTTTGTGACTTGGAAAGAAGATAAAGGAGAGGAAGAAACA  
 TTCCCTATTCTAAAGCTTTTCGTTGGCAATCAACTACCTTTTGTAGGATTTACATATTAT  
 AGCAATCGTAGATACTTATCTTCAGCAAAATCCTAATGATAACAGAAGTAGCTCCAATGCA  
 GATAAAGCTTGCAGGAAAGTTTGCAAAAAACAATCTATAAGCTGGAAGAACAGCTGCAT  
 AATGAAATGCAGTTAAAAGATGAAATGGAGCAGAAGTGCAGAACCTCAAACATAAAACTA  
 GACAAGATAATGAAAGAATTGGATGAAGAGGAAATCAAAGAAGAAATCTAGAATCTACA  
 GTGTCTCAGATTGAGAAGGAGAAAAATGTTGCTACAGCATAGAATTAATGAGTACCAAAGA  
 AAAGCTGAACAGGAAAAATGAGAAGAGAAGAAATGTAGAAAATGAAGTTTCTACATTAAG



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GATCAGTTGGAAGACTTAAAGAAAGTCAGTCAGAATTCACAGCTTGCTAATGAGAAGCTG  
TCCCAGTTACAAAAGCAGCTAGAAGAAGCCAATGACTTACTTAGGACAGAATCGGACACA  
GCTGTAAGATTGAGGAAGAGTCACACAGAGATGAGCAAGTCAATTAGTCAGTTAGAGTCC  
CTGAACAGAGAGTTGCAAGAGAGAAATCGAATTTAGAGAATTCTAAGTCACAAACAGAC  
AAAGATTATTACCAGCTGCAAGCTATATTAGAAGCTGAACGAAGAGACAGAGGTCATGAT  
TCTGAGATGATTGGAGACCTTCAAGCTCGAATTACATCTTTACAAGAGGAGGTGAAGCAT  
CTCAAACATAATCTCGAAAAGTGGAAGGAGAAAAGAAAAGAGGCTCAAGACATGCTTAAT  
CACTCAGAAAAGGAAAAGAATAATTTAGAGATAGATTTAAACTACAAACTTAAATCATT  
CAACAACGGTTAGAACAAGAGGTAAATGAACACAAAGTAACCAAAGCTCGTTTAACTGAC  
AAACATCAATCTATTGAAGAGGCAAAGTCTGTGGCAATGTGTGAGATGGAAAAAAGCTG  
AAAGAAGAAAGAGAAGCTCGAGAGAAGGCTGAAAATCGGGTTGTTGAGATTGAGAAACAG  
TGTTCCATGCTAGACGTTGATCTGAAGCAATCTCAGCAGAAAAGTGAACATTTGACTGGA  
AATAAAGAAAGGATGGAGGATGAAGTTAAGAATCTAACCTGCAACTGGAGCAGGAATCA  
AATAAGCGGCTGTTGTTACAAAATGAATTGAAGACTCAAGCATTGAGGCAGACAATTTA  
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GAGCTACAAGATCAGCTTGAAGCTGAGCAATATTTCTCGACACTTTATAAAACCCAGGTA  
AAGGAACTTAAAGAAGAAATGGAAGAAAAAACAGAGAAAATTTAAAGAAAATACAGGAA  
CTACAAAATGAAAAGAAACTCTTGCTACTCAGTTGGATCTAGCAGAAAACAAAAGCTGAG  
TCTGAGCAGTTGGCGCGAGGCCTTCTGGAAGAACAGTATTTTGAATTGACGCAAGAAAAGC  
AAGAAAGCTGCTTCAAGAAATAGACAAGAGATTACAGATAAAGATCACACTGTTAGTCGG  
CTTGAAGAAGCAAACAGCATGCTAACCAAGATATTGAAATATTAAGAAGAGAGAATGAA  
GAGCTAACAGAGAAAATGAAGAAGGCAGAGGAAGAATATAAACTGGAGAAGGAGGAGGAG  
ATCAGTAATCTTAAGGCTGCCTTTGAAAAGAATATCAACACTGAACGAACCCCTTAAAAACA  
CAGGCTGTTAACAAATTGGCAGAAATAATGAATCGAAAAGATTTTAAAATTGATAGAAAAG  
AAAGCTAATACACAAGATTTGAGAAAAGAAAAGAAAATCGAAAAGCTGCAACTGGAA  
CTCAACCAAGAAAGAGAGAAAATCAACCAGATGGTAGTGAACATCAGAAGGAACTGAAT  
GACATGCAAGCGCAATTGGTAGAAGAATGTGCACATAGGAATGAGCTTCAGATGCAGTTG  
GCCAGCAAAGAGAGTGATATTGAGCAATTGCGTGCTAACTTTTGGACCTCTCGGATTCT  
ACAAGTGTGCTAGTTTTCTAGTGCTGATGAACTGATGGTAACCTCCCAGAGTCAAGA  
ATTGAAGGTTGGCTTTCAGTACCAAATAGAGGAAATATCAAACGATATGGCTGGAAGAAA  
CAGTATGTTGTGTAAGCAGCAAAAAAATTTTGTCTATAATGACGAACAAGATAAGGAG  
CAATCCAATCCATCTATGGTATTGGACATAGATAAACTGTTTCACGTTAGACCTGTAAAC  
CAAGGAGATGTGTATAGAGCTGAACTGAAGAAATTCCTAAAATATTCCAGATACTATAT  
GCAAAATGAAGGTGAATGTAGAAAAGATGTAGAGATGGAACCAAGTACAACAAGCTGAAAAA  
ACTAATTTCCAAAATCACAAAGGCCATGAGTTTATTCTACACTTACCCTTTCTGCTGCC  
AATTGTGATGCCTGTGCCAAACCTCTCTGGCATGTTTTAAGCCACCCCTGCCCTAGAG  
TGTCGAAGATGCCATGTTAAGTGCCACAGAGATCACTTAGATAAAGAAAGAGGACTTAATT  
TGTCCATGTAAAGTAAGTTATGATGTAACATCAGCAAGAGATATGCTGCTGTTAGCATGT  
TCTCAGGATGAACAAAAAATGGGTAACCTATTTAGTAAAGAAAATCCCTAAGAATCCA  
CCATCTGGTTTTGTTGCTGCTTCCCTCGAACGCTTTCTACAAGATCCACTGCAAATCAG  
TCTTCCGGAAAGTGGTCAAAAATACATCTGAAAAAAGTAA

**5' Read Nucleotide Sequence:**

>OriGene 5' genomic read for NM\_005406 unedited  
 ACTCACTATAGGGCGGCCGGAATTCGGCACGAGGCGACTCGCCCTTTCCCGGGCTGGGA  
 CCGCAGCCCTCCAGAAAGCTCCCCATCAGCAGCCGCGGGACCAACTATCGTCTTCC  
 TCTTCGCCCGCTCCTCAGCCTTCTCTGCTAAGTCTCCATCGGGCATCGACCTCGCCCT  
 GCCCCACCGGACACCGTAGCAGCAGCCCCAGCAGCGACGGGACAAAATGGGAGAGTGAGG  
 CTGTCTGCGTGGACCAGCTCGTGGCCGAGACTGATCGGTGCGTCGGGCCGGCCGAGTA  
 GAGCCCGGGACGCGGGGCTAGACCGTCTACAGCGCCTCTGAGCGGAGCGGGCCCGCCCG  
 TGGCCCGAGCGGGCGCCGAGCTGGCACAAAGCTCTCACCCGCCCTTGTCTTCGCCCTTTC  
 CTCTTCTCCCTCCCTTGTGCCCCGAGGGAGTCTCCACCCTGCTTCTCTTCTACCCG  
 CTCCTGCCATCTCGGGACGNGACCCCTCCATGGCGACGGCGCCGNGCCCGTAGAC  
 TGAAGCACCTCGCCGGAGCGACGAGGCTGGTGGCGACGGCGCTGTCGGTGTGCTGAGGN  
 GCTTGCCGGGTGGGATGCGACTTGGGCGTCCGAGCGGCTGTGGGTGCTTGTGCCCCC  
 GGCCCGNGTCTTGAGAGCGGAGGTCCCCTCAGTGAGGGGAAGACGGNGGAAACCGGG  
 CGCACCTGGTGACCCTGAGGTTCC

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_005406 unedited  
 CGGCCAGGAGAGGCACTGGGAGGGGTACAGGGATGCCACCCGGGATCTGTTTCAGGAAA  
 CAGCTATGACCGCGCCCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTATATTAATA  
 ACAGATATGTTTATTATTACATATCCATCAGTGGGCTTCAATACCACTTGAAACATGC  
 ATATCATCTAGAGACGATCGGTTTTCCAGTGCTTCTTATCTGATACACATTACTGAAA  
 GCCATTATAAATTAAGGAGGTATTTGGTTAAAAAATAAACAATAAATCATACTGTC  
 CATATGAATCAACTCTTGTACTGGACAAGAGTTTAAACAGTATTTATCTGGTAATTCCTA  
 TGTTAACTGGAAAACATCATGGATGATTGCCATATTTCTTTTTATGTTGGTGCAACCT  
 TCTACATTTTTGAGTTTTATAAAGTCATTATTGTAGCAGGTAGTTTGTGCAAAGATT  
 GTACTCAATTTATGAAAGTCCAACAACTCTAAATATTTAAATTAACCAATTATCAA  
 TGAAAACTCACTGACACACATAATTTTTGAAAATACATTTTTGAAATTTCTACTT  
 ACTCATGGCAGTAAAATAATTATCTCAAATTAAGGCACTAAAAGGACAATGCAACCCCA  
 TTGAAAGTGTTCTAAGAATAATTTACATTTACANACAGTGACATACATTTCTATATGTTT  
 TTAACCTAATGTCTTTATCATTAN

**Restriction Sites:**

Please inquire

**ACCN:**

NM\_005406

**Insert Size:**

6000 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](#)

**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).

<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_005406.1</a> , <a href="#">NP_005397.1</a>
<b>RefSeq Size:</b>	4065 bp
<b>RefSeq ORF:</b>	4065 bp
<b>Locus ID:</b>	6093
<b>UniProt ID:</b>	<a href="#">Q13464</a>
<b>Cytogenetics:</b>	18q11.1
<b>Domains:</b>	pkinase, HR1, PH
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Axon guidance, Chemokine signaling pathway, Focal adhesion, Leukocyte transendothelial migration, Pathogenic Escherichia coli infection, Regulation of actin cytoskeleton, TGF-beta signaling pathway, Vascular smooth muscle contraction, Wnt signaling pathway
<b>Gene Summary:</b>	<p>This gene encodes a protein serine/threonine kinase that is activated when bound to the GTP-bound form of Rho. The small GTPase Rho regulates formation of focal adhesions and stress fibers of fibroblasts, as well as adhesion and aggregation of platelets and lymphocytes by shuttling between the inactive GDP-bound form and the active GTP-bound form. Rho is also essential in cytokinesis and plays a role in transcriptional activation by serum response factor. This protein, a downstream effector of Rho, phosphorylates and activates LIM kinase, which in turn, phosphorylates cofilin, inhibiting its actin-depolymerizing activity. A pseudogene, related to this gene, is also located on chromosome 18. [provided by RefSeq, Aug 2015]</p>