

## Product datasheet for **SC113257**

### ARHGEF3 (NM\_019555) Human Untagged Clone

#### Product data:

|                    |                        |
|--------------------|------------------------|
| Product Type:      | Expression Plasmids    |
| Tag:               | Tag Free               |
| Symbol:            | ARHGEF3                |
| Synonyms:          | GEF3; STA3; XPLN       |
| Mammalian Cell     | None                   |
| Selection:         |                        |
| Vector:            | <u>pCMV6-XL5</u>       |
| E. coli Selection: | Ampicillin (100 ug/mL) |



**Fully Sequenced ORF:** >OriGene ORF within SC113257 sequence for NM\_019555 edited (data generated by NextGen Sequencing)

ATGGTGGCCAAGGATTACCCCTTCTACCTCACGGTCAAGAGAGCGAACTGCAGCCTGGAG  
 CTACCTCCGGCCAGCGGTCCGGCCAAAGGACGCTGAGGAGCCTAGTAATAAACGGGTCAA  
 CCCCTTTCCCGAGTCACGTCGCTAGCAAACCTCATCCCGCCGTGAAGGCCACGCCATTA  
 AAGCGCTTCAGTCAAACCTGCAGCGCTCCATTAGCTTCCGAGTGAGAGCCGCCCTGAC  
 ATCCTCGCCCCCGACCTGGTCCAGAAATGCCCCCCCTCGAGCACGAAACGGAGAGAT  
 AGCAAGCTGTGGAGTGAGACCTTCGATGTGTGCGTCAATCAGATGCTTACATCCAAGGAA  
 ATCAAACGTCAGGAGGCGATCTTTGAGCTTTCCCAAGGAGAAGAAGACTTGATAGAAGAC  
 TTGAAATTAGCAAAAAAGGCCTATCATGACCCCATGCTGAAACTCTCCATAATGACAGAA  
 CAAGAGTTGAATCAAATTTTTGGAACACTGGACTCTCTAATTCCTCTACATGAAGAGCTC  
 CTTAGTCAGCTTTCGAGATGTTAGGAAGCCTGATGGCTCGACTGAACATGTTGGTCCCATC  
 CTCGTGGGTGGCTCCCTTGCTCAGCTCCTATGATAGCTACTGCAGCAATCAAGTAGCC  
 GCCAAGCTCTGCTGGACCACAAAAAGCAAGATCACCGAGTCCAGGATTTCTACAGCGA  
 TGTTTTAGAATCCCCCTTAGCCGCAAACTAGATCTCTGGAATTTCTCGATATTCCAAGA  
 AGCCCGCTGGTAAATACCTCTGCTTCTCCGAGAAATCTTGAGGCACACACCAATGAT  
 AATCCAGATCAGCAGCACTTGGAAGAAGCTATAAATATCATTACAGGAATTGTGGCAGAA  
 ATCAACACCAAGACTGGTGAATCTGAATGCCGTATTATAAGAGCGGCTCTTTACTTG  
 GAAGAAGGCCAGAAAGACTCCCTGATCGACAGCTCTCGAGTCGTGTGTTGTCATGGTGAA  
 CTGAAGAACAATCGGGGCGTGAAACTGCATGTTTTCTGTTCCAAGAAAGTCTTGATGATC  
 ACTCGAGCCGTACCCACAATGAGCAGCTTTGCTACCAGCTGTACCGTCAGCCAATCCCC  
 GTGAAAGACCTCTGCTGGAAGACCTCCAGGATGGAGAAGTGAGGCTGGGTGGCTCCCTG  
 CGAGGGGCATTAGCAACAATGAGAGAATAAAACTCTTCAGAGTCAGTTTCAAAAT  
 GGATCCCAAAGTCAGACCACTCGCTACAAGCCAATGACACTTTCAACAAACAGCAGTGG  
 CTTAACTGTATTCTGTAAGCCAAAGAAACAGTTTTGTGTGCTGCCGGGCAAGCTGGGGTG  
 CTTGACTCCGAGGGATCGTTCTTAATCCCACCACGGGAGCAGAGAGCTACAGGGAGAA  
 ACAAACCTTGAGCAGATGGACCAATCGGACAGTGAGTCAGACTGTAGTATGGACACGAGT  
 GAGGTCAGCCTCGACTGTGAGCGCATGGAACAGACAGACTCTTCTGTGGGAACAGCAGG  
 CATGGTGAAAGTAACGTCTGA

Clone variation with respect to NM\_019555.2  
 66 c=>t;1003 t=>g;1551 a=>g;1563 c=>t

**5' Read Nucleotide Sequence:** >OriGene 5' read for NM\_019555 unedited

GTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGCCGTGTCGCCGCCGCCG  
 CCCGGCATCGTGGAGCTGGGGCCCCCTTTTGCCTGGGAGTTTGTAGTCGCCTAGGGTCA  
 GCGGTGACATCCCAAGGGCAGGCCCGGCAGCCGCATGGTGGCCAAGGATTACCCCTTC  
 TACCTCACGGTCAAGAGAGCGAACTGCAGCCTGGAGCTACCTCCGGCCAGCGGTCCGGCC  
 AAGGACGCTGAGGAGCCTAGTAATAAACGGGTCAAACCCCTTTCCCGAGTCACGTGCTA  
 GCAAACCTCATCCCGCCGTGAAGGCCACGCCATTAAGCGCTTCAGTCAAACCTGCAG  
 CGCTCCATTAGCTTCCGAGTGAGAGCCGCCCTGACATCCTCGCCCCCGACCTGGTCC  
 AGAAATGCCGCCCTCGAGCACGAAACGGAGAGATAGCAAGCTGTGGAGTGAGACCTTC  
 GATGTGTGCGTCAATCAGATGCTTACATCCAAGGAAATCAAACGTACAGGAGCGATCTTT  
 GAGCTTTCCCAAGGAGAAGAAGACTTGATAGAAGACTTGAAATTAGCAAAAAAGGCCTAT  
 CATGACCCCATGCTGAAACTCTCCATAATGACAGAACAAGATTGAATCAAATTTTGGGA  
 ACACTGGACTCTCTAATTCCTTACATGAAGAGCTCCTTAGTCAGCTTCGAGATGTTAGG  
 AAGCCTGATGGCTCGACTGAAACATGTTGGTCCCATCCTCGTGGGCTGGCTCCCTTGCT  
 CAGCNTCTATGATAGCTACTGGCAGCATCAAGTAGCCGCAAGCTCTGCTGGACCCAAA  
 AAGCAGATCACCGATCCAGGATTTCTACAGCGATGTTTANAATCCCCCTTACCGANACT  
 AGATCTCTGAN

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>3' Read Nucleotide Sequence:</b> | <p>&gt;OriGene 3' read for NM_019555 unedited</p> <p>TAGAGTCGAGTTTTTTTTTTTTTTTTTTTGACTTAATAATGTAATTTATTTGAAATACTTC<br/> CAGAAAAGTTTAAGGCCATTATACAAAAACATTCATTTTCATCAAAACATTCATTGACCAC<br/> CTTCCCATAGGCCAACACTTGACAAACCTCTTTTCCCAACACACTGGCTGATGGCTTCTA<br/> AAAGTGGCTGATGGCGCTACAAAGAATCATTCTTTTCTTACCAGTAAAGGCTGT<br/> TCTTGGCTTCTCTGCTTCTGTCTGCAGCAGGTTCACTTGCTGTATCAATAACGACTTG<br/> AGAAAGCAGTTTTAAATAAACTTGTAAATAGAAAAATTCATCATGTTTAAGACCTATAAA<br/> TACAGAAATATGTTTTACAGGGTAAATGATCACAATATCCTTGTTTTCAAAAAATAAT<br/> AAAGTATATACCTTGTTTTATATTGATATATCTTGTCACACAACCTGAATGCACATGAT<br/> ATATGTACATAATAAATGACATCAATGCATTTACTGCTTTCTTTTCTGTAAACTTGAAA<br/> GACAGATTAATAAAAACTTTTTGGGCATAATTAGAATATTACCACTAGTGCTGGTGGGT<br/> ATAATNNTGCACAGTCATCCTTATATTACACTTGACAGGAGCTCTTCTAGACTANCTGTTT<br/> TAGGTCTGCACTTACCCTCACTGTAATAAGGCTGACAAAGAGTACTATCTGGCTACTGAT<br/> CTAATAACANAGTAATGAATGGCCTTGGAGACCTATCCATTTGATATGCCAGACCCAAT<br/> GGCATTGCCACCAAGCAGACCGAAGGCCAGCTTGCCCTCTAAAAGACTGGACATCTTTT<br/> TTATGCTCCAAAAGTCTGACAAGCTTAATCCATTTCTCCGTTCAAACAGGCATCAAAG<br/> AGGGCTCTTCTGGGCTCTCTCCAAAAGGGGGCCGCCGAACCATGAACGCCTTTGATCG<br/> CGCTCCTACCTG</p> |
| <b>Restriction Sites:</b>           | NotI-NotI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>ACCN:</b>                        | NM_019555                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Insert Size:</b>                 | 3750 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>OTI Disclaimer:</b>              | 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).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Components:</b>                  | 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>Note:</b>                        | Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>RefSeq:</b>                      | <u>NM_019555.1</u> , <u>NP_062455.1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq Size:</b>                 | 3561 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>RefSeq ORF:</b>                  | 1581 bp                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Locus ID:</b>                    | 50650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**UniProt ID:** [Q9NR81](#)

**Cytogenetics:** 3p14.3

**Domains:** RhoGEF, PH

**Gene Summary:** Rho-like GTPases are involved in a variety of cellular processes, and they are activated by binding GTP and inactivated by conversion of GTP to GDP by their intrinsic GTPase activity. Guanine nucleotide exchange factors (GEFs) accelerate the GTPase activity of Rho GTPases by catalyzing their release of bound GDP. This gene encodes a guanine nucleotide exchange factor, which specifically activates two members of the Rho GTPase family: RHOA and RHOB, both of which have a role in bone cell biology. It has been identified that genetic variation in this gene plays a role in the determination of bone mineral density (BMD), indicating the implication of this gene in postmenopausal osteoporosis. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (3) lacks several 5' exons but has an alternate 5' exon, as compared to variant 1. The resulting isoform (3) has a distinct and shorter N-terminus, as compared to isoform 1.