

## Product datasheet for **RC215650**

### **SPIRE2 (NM\_032451) Human Tagged ORF Clone**

#### **Product data:**

|                           |   |
|---------------------------|---|
| Product Type:             | Expression Plasmids                       |
| Product Name:             | SPIRE2 (NM_032451) Human Tagged ORF Clone |
| Tag:                      | Myc-DDK                                   |
| Symbol:                   | SPIRE2                                    |
| Synonyms:                 | Spir-2                                    |
| Mammalian Cell Selection: | Neomycin                                  |
| Vector:                   | pCMV6-Entry (PS100001)                    |
| E. coli Selection:        | Kanamycin (25 ug/mL)                      |



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**ORF Nucleotide Sequence:**

>RC215650 representing NM\_032451  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCCGGGCGGGCAGCTGCGGGCGGCCGCGGGCGGGCGCAGGGCGGCCGGAGCCCTGGGAGCTGTCCC  
 TGGAGGAGGTGCTGAAGGCCTACGAGCAGCCGCTCAACGAGGAGCAGGCGTGGGCCGTGTGCTTCCAGGG  
 CTGCCGCGGGCTGCGGGGCTCGCCGGGCGGGCCCTGCGGGATACCGGGGACCTCCTGCTGCGCGGGGAC  
 GGCTCGGTGCGGGCGGGGAGCCGAGGCCGCGGAACCTGCAACCATGGTCGTGCCACTAGCCAGCTCGG  
 AAGCCCAGACCGTGCAGTCCCTCGGCTTCGCCATCTACCGCGCTGGACTGGGGCTGGACGAGAGCGA  
 GGAGCGGAACTCAGCCCTCAGCTGGAGCGGCTCATCGACCTCATGGCCAAACACGACAGCGAGGACAGC  
 GGCTGCGGTGCCCGCATGAGGGCTACGGGGTCCCGAGGAGGAGGAGGAGGCGGAGGGCGTCCCCCGCA  
 GCGTGCGCACCTTGCCAGGCCATGCGGCTGTGCGCGGGCGGGTGACCGACCCCGGGGCGCACAGGC  
 GCATTACAGCCGTGTCCGCGCGCTTTCGTGGAGACGCTGGAGCTGCGGGCCTTCTGCCAGGGTC  
 CGGGAGGCCAAGGAGATGCTGCAGAAGCTTCGGGAGGACGAGCCGCATCTGGAGAGCCCTCGGGCAGAGC  
 TGGACAGCCTGGGTACACAGACTGGGCCCGACTGTGGTTTCAGCTCATGCGGGAGCTCCGCCGCGGAGT  
 GAAGCTGAAGAAGGTGCAAGAGCAGGAGTTCAACCCCTCCCCACCGAGTTCAGCTCACGCCCTTCGAG  
 ATGCTGATGCAGGACATCCGGGCCCGGAACTACAAGCTGCGCAAGGTCATGGTGGATGGGGACATCCCGC  
 CCCGGGTGAAGAAGGACGCTCACGAGCTCATCTGGACTTTATCCGCTCACGGCTCCACTGAAGCAGGT  
 CTCTGAGAGGCGGCTGCGCCCGTTGCCACCAAGCAAAGTCCCTGCATGAGAAGATCCTGGAGGAGATC  
 AAGCAGGAGCGGAGGCTGCGCCCGTTCGCGGGCGAGGGCTGGGCTGCCCGCGGGTTTGGCTCTCTGCCCT  
 GCATCCTCAACGCCTGCTCCGGAGATGCCAAGTCCACCTCCTGCATCAACCTGTGAGTGCAGTACAGATGG  
 GGCAGCGCCACGCGCCCGCGGCCCGCGTGTGCTCAAGGCGCTACCTTGGCTGAAATGGAAGAGATG  
 AATACATCTGAGGAAGAAGAGTCTCCGTGTGGGAGGTGACGCTGAAACGGGACCCTCCTTCTCAGAGC  
 ATGACCTGGCCAGCTCCGAAGTGAAGTGGCTCTGGCTGCAGTCGGCCACCCACCCCGAGGAGGAC  
 GGAGCCACCACGGCCCGAGCTGGCAGTGCATGTGTGGAGGCCGGCTCCCGAGACCAGGGTACCTGT  
 CCCGCGAGTGTCTGACCCAGCCACCCCTACTCAGCAACCGGGCTCCTCGGGGACAGACCCGAGG  
 CCTCCATGACCCCGATGCCAAACCTGTGGCTGGAGTTCAGCCACCCCGTGGAGAGCCTGGCGCTGAC  
 TGTGGAAGAGGTGATGGACGTGCGCCGTGTGCTGGTGAAGGCCGAGATGGAAGATTTTTGCAGAACAAG  
 GAGCTCTCAGCAGTCTGAAGAAGGGGAAGATTTGCTGCTGCTGCCGGCCAAGTCCCCTGTTCTCGT  
 GGCCGCCAGCTGTCTTCTGCAAGAGAGCCGCTGCACTTCTGTAGCATAAAGATGAAGATGCCTTC  
 TAAGAAATTTGGACACATCCCTGTCTACACACTGGGCTTTGAGAGTCTCAGAGGGTATCAGCTGCCAAA  
 ACCGCGCAATCCAGAGAAGAGACATCTTTCAGTCTGCAAGGGCCACAGTGGCAGAGCGTGGAGGAGG  
 CGTTCCCCACATCTACTCCACGGCTGTGCTGAAGGATGTCTGCAGTGAGTGACCAGCTTTGTGGC  
 AGACGTGGTGCCTTCCAGCCGAAGAGCGTGGACGTCCTCAACACTACGCCACGACGCAGTCGCCAGACC  
 CAATCCCTCTACATCCCTAACACCAGGACTCTTGACTTCAAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC215650 representing NM\_032451  
Red=Cloning site Green=Tags(s)

MARAGSCGAAAGAGRPEPWELSLEEVLKAYEQPLNEEQAWAVCFQGCRGLRGSPGRRLRDTGDLRLRGD  
 GSVGAREPEAAEPATMVVPLASSEAQTQVSLGFATYRALDWGLDESEERELSPQLERLIDLMANNDS  
 GCGAADEGYGGPEEEEEAEVPRSVRTFAQAMRLCAARLTDPRGAQAHYQAVCRALFVETLELRAFLARV  
 REAKEMLQKLREDEPHLETBRAELDSLGHTDWARLWVQLMRELRRGVKLLKVKVEQEFNPLPTEFQLTPFE  
 MLMQDIRARNYKLRKVMVDGDIIPRVKDAHELILDFIRSRPPLKQVSERRLRPLPPKQRLHEKILEEI  
 KQERRLRPVRGEGWAARGFGLPCILNACSGDAKSTSCINLSVTDAGGSAQRPRRVLLKAPTLAEMEEM  
 NTSEEESSPCGEVTLKRDRSFSEHDLAQLRSEVASGLQSATHPPGGTEPPRPRAGSAHVWRPGRDQGT  
 PASVSDPSHPLLNRGSSGDRPEASMPDAKHLWLEFSHPVESLALTVVEVMDVRRVLVKAEMEKFLQNK  
 ELFSSLLKKGKICCCRAKFLFSWPPSCLFCKRAVCTSCSIKMKMPSKFGHIPVYTLGFESPQRVSAAK  
 TAPIQRDIFQSLQGPQWQSVVEAFPHIYSHGCVLKDVCSECTSFVADVRRSRKSDVLTNTTPRRSRQT  
 QSLYIPNTRTLDFK

TRTRPLEQKLISEEDLANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6166\\_g02.zip](https://cdn.origene.com/chromatograms/mk6166_g02.zip)

**Restriction Sites:** Sgfl-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_032451

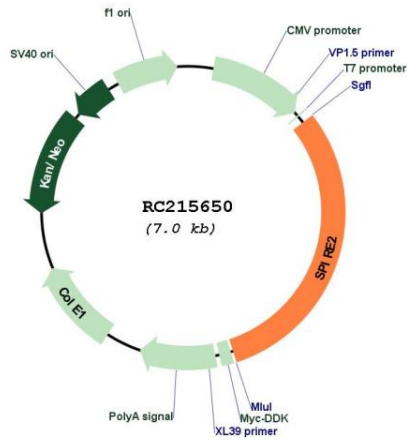
**ORF Size:** 2142 bp

**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](#)

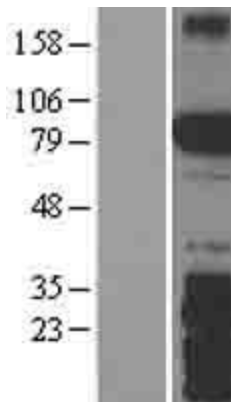
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

|                               |  |
|-------------------------------|--|
| <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>RefSeq:</b>                | <a href="#">NM_032451.2</a>  |
| <b>RefSeq Size:</b>           | 3249 bp  |
| <b>RefSeq ORF:</b>            | 2145 bp  |
| <b>Locus ID:</b>              | 84501  |
| <b>UniProt ID:</b>            | <a href="#">Q8WWL2</a>   |
| <b>Cytogenetics:</b>          | 16q24.3  |
| <b>Protein Pathways:</b>      | Dorso-ventral axis formation   |
| <b>MW:</b>                    | 79.5 kDa   |
| <b>Gene Summary:</b>          | Acts as an actin nucleation factor, remains associated with the slow-growing pointed end of the new filament (PubMed:21620703). Involved in intracellular vesicle transport along actin fibers, providing a novel link between actin cytoskeleton dynamics and intracellular transport (By similarity). Required for asymmetric spindle positioning and asymmetric cell division during meiosis (PubMed:21620703). Required for normal formation of the cleavage furrow and for polar body extrusion during female germ cell meiosis (PubMed:21620703). Also acts in the nucleus: together with SPIRE1 and SPIRE2, promotes assembly of nuclear actin filaments in response to DNA damage in order to facilitate movement of chromatin and repair factors after DNA damage (PubMed:26287480).[UniProtKB/Swiss-Prot Function] |

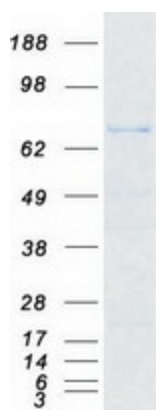
Product images:



Circular map for RC215650



Western blot validation of overexpression lysate (Cat# [LY403163]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215650 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SPIRE2 protein (Cat# [TP315650]). The protein was produced from HEK293T cells transfected with SPIRE2 cDNA clone (Cat# RC215650) using MegaTran 2.0 (Cat# [TT210002]).