

## Product datasheet for **MG210260**

### Spire2 (NM\_172287) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Spire2 (NM_172287) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Spire2
Synonyms:	BC026502; Spir-2; Spir2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG210260 representing NM\_172287  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCCGGGCGGGCGGGCGGGCGGCAGCAGCTCCCGAACCGCGGGGGCGCGGGCGGCCGAGCCGT  
 GGGAGCTGTCCCTGGAGGAAGTGTGAAGGTGTACGAGCAGCCATCAACGAGGAGCAGGCCTGGGCGGT  
 GTGCTTCCAGGGCTGCCGCGGGTGCAGGGCGAGCCGGCGGCGTGCAGCGCATCCGGGACACGGCAGAC  
 ATCCTCTGCGTAGGGACGGTTCGGTTGGCGCGCGGTGGAGCCCGAGCCTACAACCATGGTGGTACCAC  
 CAGCCAGCTCAGAAGCCAGATGGTGCAGTCACTGGGCTTTGCCATTTACCGTGCCTGGACTGGGGTT  
 AGATGAGAACGAGGAGAGAGAGCTCAGCCCGCAGCTGAAAGGCTCATCGACCTCATGGCCAACAGCGAC  
 TGCGAAGACAGCAGCTGCGGGCAGCGGATGAGGGCTACGTGGTCCAGAAGAGGAGGAGGAGGCTGAGG  
 GCGGCCCCGAGCTGTGCGCACCTTTGCCAGGCTATGCGGCTGTGTCTTTGCGCTGACCGACCCCA  
 CGGCGCGCAGGCCACTACCAGGCACTGTGCCAGCTCTTTTGTGGAGACTGGAGCTTCGTGCCTTC  
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 TCACGGGGTAAAGCTGAAGAAGGTGCAGGAGAAGGAGTTCAACCCACTGCCACCGAGTTCAGCTCACC  
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 ACATCCCTCCCAGGGTGAAGAAGGACGCACATGAACCTTACCTGGACTTCATTCTGCTTCGGCTCCACT  
 GAAGCAGGTCTCAGAGAGACAACCTCGCCCTGTACCACAGAAGCAAAGAACAAGTGCACGAGAAGATCCTG  
 GAGGAAATCAAGCAGGAGCGGAGGCTTCGTCCAGTCGGGGCCAGCACTTGGGAGGCCGTGGGTTTGGTT  
 CCCTGCCCTGCATCCTCAATGCCTGCTCTGGGGACATCAAGTCCACTTCCTGCATCAACCTGTCTGCAC  
 CGATACTGGGAGCGGGAGTCAGCGCCACGGCCCGGGTCTGCTCAAAGCCCCCACCCTTGACAGAGATG  
 GAAGAAATGAACACGCTCTGAGGAAGAAGAGTCCCCATGTGGGAGGTGGCACTGAAGCGGGACCGCTCTT  
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 CCTGGCTCTGACTGTGGAAGAGTGGTGGACGTGCGCAGGGTGTGGTGAAGCGGAGATGGAGAGGTTT  
 CTGCAGGACAAGGAGCTTTCAGCAGCCTGAAGAGGGGAAGATTTGCTGTTGCTGCCGAGCCAAGTTTC  
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 GAAGATGCCTTCAAGAAGTATGGACACATCCCTGTCTACACACTTGGCTTTGAGAGTCTTCAGAGGGTG  
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 GCGTGGAGGAGGAGTTCACCCACATCTATGCCACGGCTGTGTCTAAAGGATGTCTGCAGTACTGCAC  
 CAGCTTTGTGGCTGATGTGCTGTCTCCAGCCGAAGAGCGTGGATGTCTCAATGCCACTCCACGACGA  
 AGCCGTCAGACCCAGTCCCTCTATATCCCCAACACCAGGACTCTCAACTCCAA

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >MG210260 representing NM\_172287  
 Red=Cloning site Green=Tags(s)

MARAGGGGAAAPERAGGAARPEPWELSL EEVLK VYE QPINEEQAWAVCFQGC RGLRGE PGGVRRIRD TAD  
 ILLRRDGSV GARLEPEPTTMVVP PASSE AQMVQSLGFAIYRALDWGLDENEERELSPQLERLIDLMANS D  
 CEDSSCGAADEGYVGP EEEEEAE GGPRAVRTFAQAMRLCALRLTDPHGAQAHYQAVCRALFVETLELRAF  
 LARVREAKEMLKKL GEEEPREKPLAELDHLGHTDWARLWVQLMREL RHGVK LKKVQEKEFNPLPTEFQLT  
 PFEMLMQDIRARNYKLRKVMVDGDI PPRVKKDAHELILDFIRSRPPLKQV SERQLRPVPQKQRTLHEKIL  
 EEIKQERRLRPVGAQHLGGRGFSLPCILNACSGDIKSTSCINLSVTD TGSGSQRPRVLLKAPTLAEM  
 EEMNTSEEEESP CGEVALKRDRSFSEHDLAQLRSEMASGLQSAAPPGGTEPPRARAGSMH SWRPSSRDQ  
 GFPCVSGSQPLPSSALPSSLSSVDGPEAASPDTRHLWLEF SHPVE SLALTV EEVVDVRRVLVKAEMERF  
 LQDKELFSSLKRGKICCCRAKFLFSWPPTCLFCKRAVCTSCSVKMKMPSK KYGHIPVYTLGFESLQRV  
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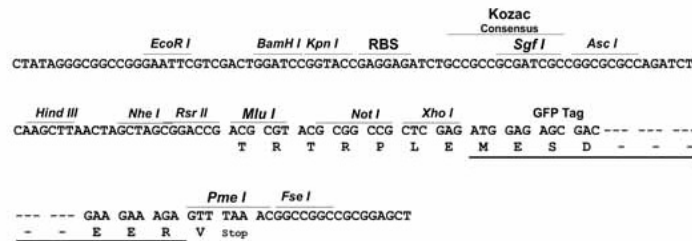
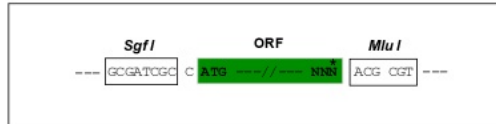
TRTRPLE - GFP Tag - V

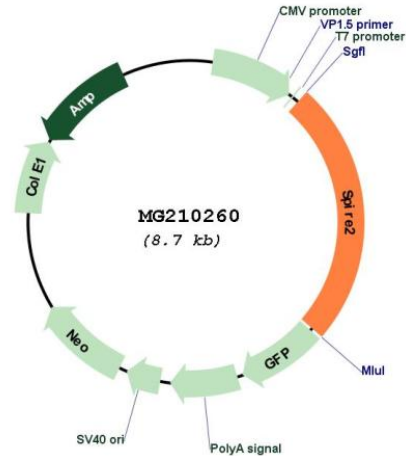
**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**Plasmid Map:**


**ACCN:** NM\_172287

**ORF Size:** 2154 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\\_172287.2](#), [NP\\_758491.1](#)

**RefSeq Size:** 2399 bp

**RefSeq ORF:** 2157 bp

Locus ID: 234857

UniProt ID: [Q8K1S6](#)

Cytogenetics: 8 E1

**Gene Summary:** Acts as an actin nucleation factor, remains associated with the slow-growing pointed end of the new filament (PubMed:21620703, PubMed:21983562). Involved in intracellular vesicle transport along actin fibers, providing a novel link between actin cytoskeleton dynamics and intracellular transport (PubMed:21983562). Required for asymmetric spindle positioning and asymmetric cell division during oocyte 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 (By similarity). [UniProtKB/Swiss-Prot Function]