

## Product datasheet for **RG233710**

### Shugoshin (SGO1) (NM\_001199254) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Tag:	TurboGFP
Symbol:	Shugoshin
Synonyms:	CAID; NY-BR-85; SGO; SGOL1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)

**ORF Nucleotide Sequence:** >RG233710 representing NM\_001199254  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGGCCAAGGAAAGATGCCTGAAAAAGTCCTTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAAG  
AGAAAAGGAATAAACTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATAAT  
CACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAATGTTAGTTTTAGCTTTGGAAAT  
GAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCCTACAGCTGAGAAAAGATGTTACTATCTCACAT  
GTCAGCTATATGCATTGAAAGGAAAACCTTACATCACAACAAACAGTAGAACCTGCTCAGAACCAGGAAAT  
ATGTTCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTACCGCAA  
ATTCCTCTTGAAGAACTGAACCTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATACCTACTA  
TTCCTCAAGACACACTGGGAGTTGATTTTGATTGAGTACACCACTGAACTCAGCAGTCACCTCATCT  
TAGCCTGAAGGATATACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCTCTTTCTCCA  
AAAAAGAATAAAGCAAGCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTGAAGTATAAGG  
AGCCCACCCTCGCTTCGAACTGAGAAGAGGGGACCCTTTACAGATTTGTGTTTTTGAATTCCTAT  
TTTCAAGCAGAAAAAGGATTTGAGACGTTCTAAAAAAGAGCCCTGGAGGTATCACCTGCCAAGAAGCA  
ATTTTTATTTTATATTATGTTTCGAGAATTTGTTTCGAGATTCAGACTGTAGGAAATGTAACTTGAAA  
CCCACATCTGCTTGAGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



**Protein Sequence:** >RG233710 representing NM\_001199254  
Red=Cloning site Green=Tags(s)

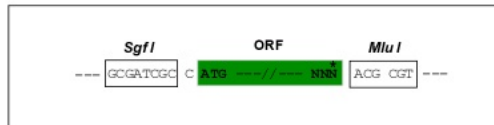
MAKERCLKKSFQDSLEDIKRMKEKRNKNLAEIGKRRSFIAAPCQIITNTSTLLKNYQDNNKMLVLALEN  
EKSKVKEAQDIILQLRKECYLTCQLYALKGKLTSSQQTVEPAQNQEICSSGMDPNSDDSSRNLFVKDLPQ  
IPLEETELPGQGESFQIEDQIPTIPQDTLGVDFDSATPPETQQSPHLSLKDITNVSLYPVVKIRRLSLSP  
KKNKASPAVALPKRRCTASVNYKEPTLASKLRGDPFDLCLNSPIFKQKKDLRRSKKRALEVSPAKEY  
IFILYVREFVSRFPDCRKCKLETHICLR

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



CTATAGGGCGGCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGATCGCCGGCGCCAGATCT

EcoRI BamHI KpnI RBS Kozac Consensus SgfI AscI

CAAGCTTAAGCTAGTAGCGGACCG ACG CGT ACG CGG CCG CTC GAG ATG GAG AGC GAC ---

HindIII NheI RsrII MluI NotI XhoI GFP Tag

T R T R P L E M E S D - - -

--- GAA GAA AGA GTT TAA ACGGCCGGCCGCGGAGCT

- - E E R V Stop

**ACCN:** NM\_001199254

**ORF Size:** 927 bp

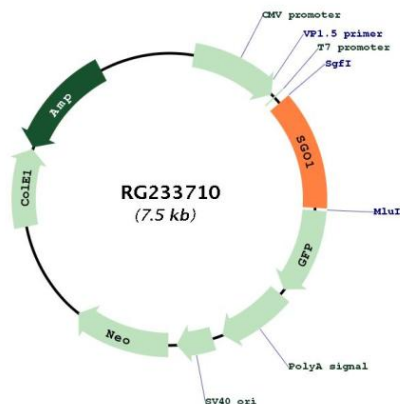
**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone 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).

<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_001199254.3</u>
<b>RefSeq Size:</b>	1736 bp
<b>RefSeq ORF:</b>	930 bp
<b>Locus ID:</b>	151648
<b>UniProt ID:</b>	<u>Q5FBB7</u>
<b>Cytogenetics:</b>	3p24.3
<b>Protein Pathways:</b>	Oocyte meiosis
<b>Gene Summary:</b>	<p>The protein encoded by this gene is a member of the shugoshin family of proteins. This protein is thought to protect centromeric cohesin from cleavage during mitotic prophase by preventing phosphorylation of a cohesin subunit. Reduced expression of this gene leads to the premature loss of centromeric cohesion, mis-segregation of sister chromatids, and mitotic arrest. Evidence suggests that this protein also protects a small subset of cohesin found along the length of the chromosome arms during mitotic prophase. An isoform lacking exon 6 has been shown to play a role in the cohesion of centrioles (PMID: 16582621 and PMID:18331714). Mutations in this gene have been associated with Chronic Atrial and Intestinal Dysrhythmia (CAID) syndrome, characterized by the co-occurrence of Sick Sinus Syndrome (SSS) and Chronic Intestinal Pseudo-obstruction (CIPO) within the first four decades of life (PMID:25282101). Fibroblast cells from CAID patients exhibited both increased cell proliferation and higher rates of senescence. Pseudogenes of this gene have been found on chromosomes 1 and 7. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2015]</p>

Product images:



Circular map for RG233710