

## Product datasheet for **RC234435**

### Shugoshin (SGO1) (NM\_001199252) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Shugoshin (SGO1) (NM_001199252) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Shugoshin
Synonyms:	CAID; NY-BR-85; SGO; SGOL1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC234435 representing NM\_001199252  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGCCAAGGAAAGATGCCTGAAAAAGTCCTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAAG  
 AGAAAAGGAATAAAAACCTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATAAT  
 CACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAAATGTTAGTTTTAGCTTTGGAAAAAT  
 GAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCTACAGCTGAGAAAAGAATGTTACTATCTCACAT  
 GTCAGCTATATGCATTGAAAGGAAAACCTTACATCACAACAACAGTAGAACCTGCTCAGAACCAGGAAAT  
 ATGTTCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTACCGCAA  
 ATTCTCTTGAAGAACTGAACCTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATACCTACTA  
 TTCTCAAGACACACTGGGAGTTGATTTTGATTCAAGTGAAGCTAAGTCTACTGATAATGTCTTACCTAG  
 AACTGTATCTGTTTCGTAGCAGTTTAAAGAAACATTGTAACAGTATATGTCAGTTTGATAGCTTGGATGAT  
 TTTGAAACCAAGTCATTTGGCAGGGAAGTCTTTGAATTCGAAAGAGTTGGATTTTAGACCCACTAGTAA  
 ACATGCACATACCTGAAAATGTACAACAATGCTTGTCAATGGAGCAAGGACCAAGTAACTTATCACC  
 AAAGCTGATTCAGCCAGGAACGTTTACTAAAACAAAAGAAGACATTTTAGAATCTAAATCTGAACAACT  
 AAAAGTAAAGCAAAGAGATACACAAGAAAGAAAAGAGAAGAGAAAAGAAAAGCTAACAGGAGAAAATCAA  
 AACGTATGTCAAATATAAAGAGAATAAAAGCGAAAATAAAAAACTGTTCCCAAAAAAAAAATGCACAA  
 ATCTGTGAGTCCAATGATGCTTACAATTTTAAATTTGGAAGAGGGTGTTCATCTTACTCCTTTCCGACAA  
 AAAGTGAAGCAATGACTCTAATAGAGAAGAAAACAACGAGTCTGAAGTGAAGTCTGTGAATCAAGTGGTT  
 CAGGAGATGATTCGATGACCTCTATTTGCCACTTGAAGTACATTCAGAATCCACAGCAATTCAGA  
 TAGACCAGTCACCAAGCCCTCTAGCTAAAAGAGCACTGAAATACACAGATGAAAAGAGACGGAGGGTCT  
 AAGCCAACAAAACCTCCTACCACTACACCACCTGAACTCAGCAGTACCTCATCTTAGCCTGAAGGATA  
 TCACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCTCTTTCTCCAAAAAGAATAAAGC  
 AAGCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTGAACATAAGGAGCCACCCTCGCT  
 TCGAAACTGAGAAGAGGGGACCTTTTACAGATTTGTGTTTTTTGAAATTCCTATTTTCAAGCAGAAAA  
 AGGATTTGAGACGTTCTAAAAAAGAGCCCTGGAGGTATCACCTGCCAAAGAAGCAATTTTTATTTATA  
 TTATGTTGAGAATTTGTTTCGAGATTCAGACTGTAGGAAATGAAACTTGAACCCACATCTGCTTG  
 AGG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC234435 representing NM\_001199252  
 Red=Cloning site Green=Tags(s)

MAKERCLKKSFQDSLEDIKKRMKEKRNKNLAEIGKRRSFIAAPCQIITNTSTLLKNYQDNNKMLVLALEN  
 ESKYVKEAQDIILQLRKECYLLTCQLYALKGKLTQQTVPEPAQNQIECSSGMDPNSSDSSRNLFVKDLPQ  
 IPLEETELPGQGESFQIEDQIPTIPQDTLGVDFDSGEAKSTDNVLPRVSVRSSLKHKHCNSICQFDSLDD  
 FETSHLAGKSFEFERVGFLDPLVNMHIPENVQHNACQWSKDQVNLSPKLIQPGTFTKTKEDILESKEQT  
 KSKQRDTQERKREEKRKANRRKSKRMSKYKENKSENKKTVPQKMHKSVSSNDAYNFNLEEGVHLTPFRQ  
 KVSNDSNREENNESEVSLCESSGSDSDDLYLPTCKYIQNPTSNSDRPVTRPLAKRALKYTDEKETEGS  
 KPTKTPPTTPPETQQSPHLCLKDITNVSLEYVVKIRRLSLSPKKNKASPAVALPKRRCTASVNYKEPTLA  
 SKLRRGDPFTDLCLNSPIFKQKKDLRRSKKRALEVSPAKEAIFILYYVREFVSRFPDCRCKLETHICL  
 R

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8029\\_e12.zip](https://cdn.origene.com/chromatograms/mk8029_e12.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_001199252

**ORF Size:** 1683 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\\_001199252.3](#)

**RefSeq Size:** 2492 bp

**RefSeq ORF:** 1686 bp

**Locus ID:** 151648

**UniProt ID:** [Q5FBB7](#)

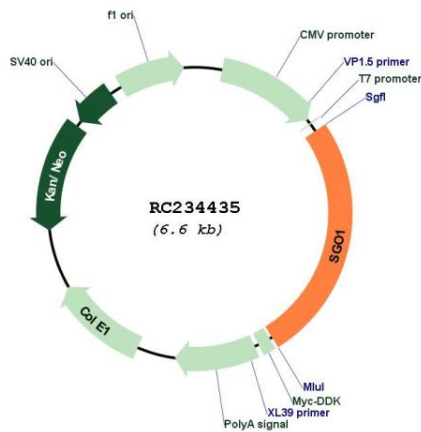
**Cytogenetics:** 3p24.3

**Protein Pathways:** Oocyte meiosis

**MW:** 64.2 kDa

**Gene Summary:** 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]

**Product images:**



Circular map for RC234435