**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for SC301644

## Shugoshin (SGO1) (NM_001012412) Human Untagged Clone

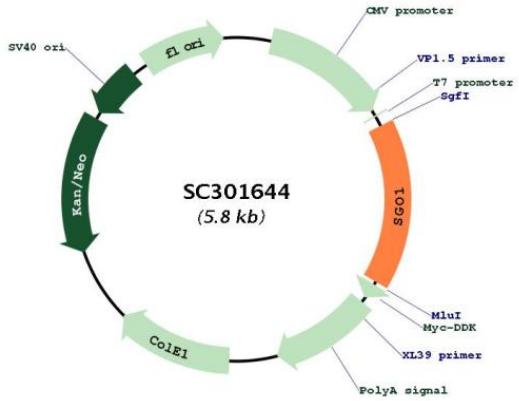
### Product data:

| | |
|---|---|
| **Product Type:** | Expression Plasmids |
| **Product Name:** | Shugoshin (SGO1) (NM_001012412) Human Untagged Clone |
| **Tag:** | Tag Free |
| **Symbol:** | SGO1 |
| **Synonyms:** | CAID; NY-BR-85; SGO; SGOL1 |
| **Mammalian Cell Selection:** | Neomycin |
| **Vector:** | pCMV6-Entry (PS100001) |
| **E. coli Selection:** | Kanamycin (25 ug/mL) |
| **Fully Sequenced ORF:** | >SC301644 representing NM_001012412.<br>Blue=Insert sequence Red=Cloning site Green=Tag(s)<br><br>GCTCGTTTAGTGAACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTG<br>GATCCGGTACCGAGGAGATCTGCCGCCGCGATCGCC<br>ATGGCCAAGGAAAGATGCCTGAAAAAGTCCTTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAA<br>GAGAAAAGGAATAAAAACTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATA<br>ATCACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAAATGTTAGTTTTAGCTTTGGAA<br>AATGAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCCTACAGCTGAGAAAAGAATGTTACTATCTC<br>ACATGTCAGCTATATGCATTGAAAGGAAAACTTACATCACAACAAACAGTAGAACCTGCTCAGAACCAG<br>GAAATATGTTCCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTA<br>CCGCAAATTCCTCTTGAAGAAACTGAACTTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATA<br>CCTACTATTCCTCAAGACACACTGGGAGTTGATTTTGATTCAGCTACACCACCTGAAACTCAGCAGTCA<br>CCTCATCTTAGCCTGAAGGATATCACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCT<br>CTTTCTCCAAAAAAGAATAAAGCAAGCCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTG<br>AACTATAAGGAGCCCACCCTCGCTTCGAAACTGAGAAGAGGGGACCCTTTTACAGATTTGTGTTTTTTG<br>AATTCTCCTATTTTCAAGCAGAAAAAGGATTTGAGACGTTCTAAAAAAAGAGCCCTGGAGGTATCACCT<br>GCCAAAGAAGCAATTTTTATTTTATATTATGTTCGAGAATTTGTTTCGAGATTCCCAGACTGTAGGAAA<br>TGTAAACTTGAAACCCACATCTGCTTGAGGTAA<br>ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGAT<br>TACAAGGATGACGACGATAAGGTTTAAACGGCCGGC |
| **Restriction Sites:** | SgfI-MluI |



View online »

Plasmid Map:




| | |
|---|---|
| **ACCN:** | NM_001012412 |
| **Insert Size:** | 930 bp |
| **OTI Disclaimer:** | 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). |
| **OTI Annotation:** | This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA. |
| **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.<br>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.<br>3. Close the tube and incubate for 10 minutes at room temperature.<br>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.<br>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_001012412.4 |
| **RefSeq Size:** | 1624 bp |
| **RefSeq ORF:** | 930 bp |

| | |
|---|---|
| **Locus ID:** | 151648 |
| **UniProt ID:** | Q5FBB7 |
| **Cytogenetics:** | 3p24.3 |
| **Protein Pathways:** | Oocyte meiosis |
| **MW:** | 35.3 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]<br>Transcript Variant: This variant (Sgo1H, PMID:15737064, also known as B2) differs in its 5' UTR, uses an alternate in-frame splice site in its central coding region, and contains an alternate 3' terminal segment compared to variant 1, resulting in a novel 3' coding region and distinct 3' UTR. It encodes isoform 1GH which is shorter, has a distinct internal amino acid, and has a distinct C-terminus, compared to isoform 1. Both variants Sgo1G and Sgo1H encode the same isoform (1GH). |