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 RC224674

Shugoshin (SGO1) (NM_001012412) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Shugoshin (SGO1) (NM_001012412) 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)

ORF Nucleotide Sequence:

>RC224674 representing NM_001012412
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCAAGGAAAGATGCCTGAAAAAGTCCTTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAAG
AGAAAAGGAATAAAAACTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATAAT
CACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAAATGTTAGTTTTAGCTTTGGAAAAT
GAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCCTACAGCTGAGAAAAGAATGTTACTATCTCACAT
GTCAGCTATATGCATTGAAAGGAAAACTTACATCACAACAAACAGTAGAACCTGCTCAGAACCAGGAAAT
ATGTTCCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTACCGCAA
ATTCCTCTTGAAGAAACTGAACTTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATACCTACTA
TTCCTCAAGACACACTGGGAGTTGATTTTGATTCAGCTACACCACCTGAAACTCAGCAGTCACCTCATCT
TAGCCTGAAGGATATCACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCTCTTTCTCCA
AAAAAGAATAAAGCAAGCCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTGAACTATAAGG
AGCCCACCCTCGCTTCGAAACTGAGAAGAGGGGACCCTTTTACAGATTTGTGTTTTTTGAATTCTCCTAT
TTTCAAGCAGAAAAAGGATTTGAGACGTTCTAAAAAAAAGAGCCCTGGAGGTATCACCTGCCAAAGAAGCA
ATTTTTATTTTATATTATGTTCGAGAATTTGTTTCGAGATTCCCAGACTGTAGGAAATGTAAACTTGAAA
CCCACATCTGCTTGAGG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

>RC224674 representing NM_001012412
Red=Cloning site Green=Tags(s)

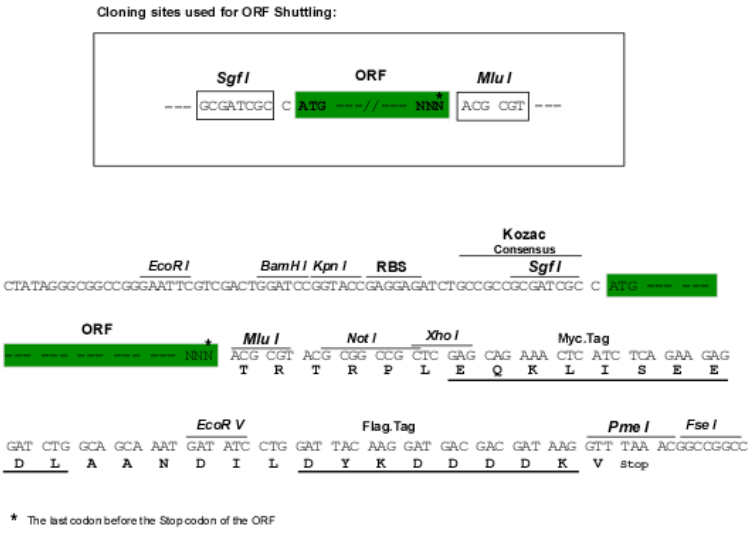
MAKERCLKKSFQDSLEDIKKRMKEKRNKNLAEIGKRRSFIAAPCQIITNTSTLLKNYQDNNKMLVLALEN
EKSKVKEAQDIILQLRKECYYLTCQLYALKGKLTSQQTVEPAQNQEICSSGMDPNSDDSSRNLFVKDLPQ
IPLEETELPGQGESFQIEDQIPTIPQDTLGVDFDSATPPETQQSPHLSLKDITNVSLYPVVKIRRLSLSP
KKNKASPAVALPKRRCTASVNYKEPTLASKLRRGDPFTDLCFLNSPIFKQKKDLRRSKKRALEVSPAKEA
IFILYYVREFVSRFPDCRKCKLETHICLR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk8051_a03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_001012412

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).

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_001012412.5

RefSeq Size: 1615 bp

RefSeq ORF: 930 bp

Locus ID: 151648

UniProt ID: Q5FBB7

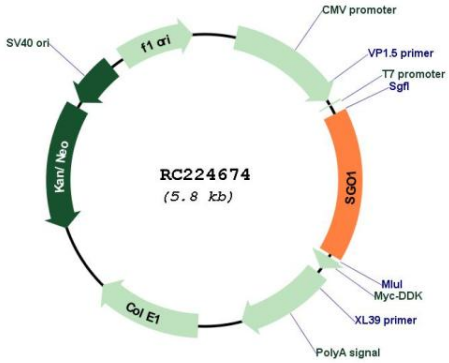
Cytogenetics: 3p24.3

Protein Pathways: Oocyte meiosis

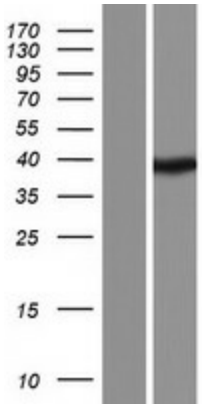
MW: 35.2 kDa

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 RC224674



Western blot validation of overexpression lysate (Cat# [LY422850]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from un-transfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224674 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).