

Product datasheet for **RG214977**

Shugoshin (SGO1) (NM_001012409) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Shugoshin (SGO1) (NM_001012409) Human Tagged ORF Clone
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)



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ORF Nucleotide Sequence:

>RG214977 representing NM_001012409
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCAAGGAAAGATGCCTGAAAAAGTCCTTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAAG
 AGAAAAGGAATAAAAACCTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATAAT
 CACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAAATGTTAGTTTTAGCTTTGGAAAAAT
 GAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCTACAGCTGAGAAAAGAATGTTACTATCTCACAT
 GTCAGCTATATGCATTGAAAGGAAAACCTTACATCACAACAACAGTAGAACCTGCTCAGAACCAGGAAAT
 ATGTTCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTACCGCAA
 ATTCCTCTTGAAGAACTGAACCTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATACCTACTA
 TTCCTCAAGACACACTGGGAGTTGATTTTGATTGAGTGAAGCTAAGTCTACTGATAATGTCTTACCTAG
 AACTGTATCTGTTTCGTAGCAGTTTAAAGAAACATTGTAACAGTATATGTCAGTTTGATAGCTTGGATGAT
 TTTGAAACCAAGTCATTTGGCAGGGAAGTCTTTGAATTCGAAAGAGTTGGATTTTAGACCCACTAGTAA
 ACATGCACATACCTGAAAATGTACAACAATGCTTGTCAATGGAGCAAGGACCAAGTAACTTATCACC
 AAAGCTGATTCAGCCAGGAACGTTTACTAAAACAAAAGAAGACATTTTAGAATCTAAATCTGAACAAACT
 AAAAGTAAAGCAAAGAGATACACAAGAAAGAAAAGAGAAGAGAAAAGAAAAGCTAACAGGAGAAAATCAA
 AACGTATGTCAAATATAAAGAGAATAAAGCGGAAAATAAAAAACTGTTCCCAAAAAAAAATGCACAA
 ATCTGTGAGTCCAATGATGCTTACAATTTAATTTGGAAGAGGGTGTTCATCTTACTCCTTTCCGACAA
 AAAGTGAAGCAATGACTCTAATAGAGAAGAAAACAACGAGTCTGAAGTGAAGCTCTGTGAATCAAGTGTT
 CAGGAGATGATTCGATGACCTCTATTTGCCACTTGAAGTACATTCAGAATCCACGCAATTCAGA
 TAGACCAGTCACCAGGCCTCTAGCTAAAAGAGCACTGAAATACACAGATGAAAAGAGACGGAGGGTCT
 AAGCCAACAAAACCTCCTACCACTACACCACCTGAAACTCAGCAGTACCTCATCTTAGCCTGAAGGATA
 TCACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCTCTTTCTCCAAAAAAGAATAAAGC
 AAGCCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTGAACATAAAGGAGCCCACCCTCGCT
 TCGAAACTGAGAAGAGGGGACCCTTTTACAGATTTGTGTTTTTTGAATTCCTATTTTCAAGCAGAAAA
 AGGATTTGAGACGTTCTAAAAAAGTATGAAACAATAACA

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG214977 representing NM_001012409
 Red=Cloning site Green=Tags(s)

MAKERCLKKSFQDSLEDIKKRMKEKRNKNLAEIGKRRSFIAPCQIITNTSTLLKNYQDNNKMLVLALEN
 EKSXVKEAQDIILQLRKECYLTCQLYALKGKLTQQTVPAQNEICSSGMDPNSSDSSRNLFVKDLPQ
 IPLEETELPGQESFQIEDQIPTIPQDTLGVDFDSGEAKSTDNVLPRTVSVRSSLKHCNSICQFDSLDD
 FETSHLAGKSFEFERVGFLDPLVNMHIPPENVQHNACQWSDQVNLSPKLIQPGTFTKTKEDILEKSEQT
 KSKQRDTQERKREKRNRRKSKRMSKYKENSENKKTVPQKMKHSVSSNDAYNFNLEEGVHLTPFRQ
 KVSNDNREENNESEVSLCESSGSGDSDLLYLPTCKYIQNPTSNSDRPVTRPLAKRALKYDTEKETEGS
 KPTKTPTTTPPETQQSPHLSLKDITNVSLLYPVVKIRRLSLSPKKNKASPAVALPKRRCTASVNYKEPTLA
 SKLRRGDPFTDLCFLNSPIFKQKDLRRSKSMKQIQ

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_001012409

ORF Size: 1581 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_001012409.3](#)

RefSeq Size: 1956 bp

RefSeq ORF: 1584 bp

Locus ID: 151648

UniProt ID: [Q5FBB7](#)

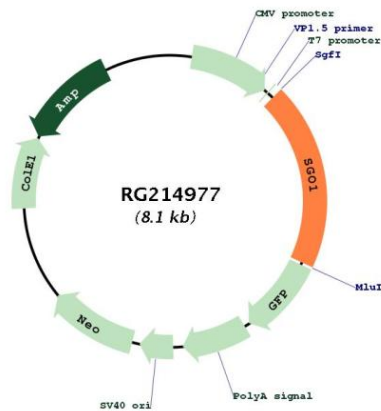
Cytogenetics: 3p24.3

Protein Pathways:

Oocyte meiosis

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 RG214977