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Product datasheet for RG234435

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:	TurboGFP
Symbol:	SGO1
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:

>RG234435 representing NM_001199252
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCCAAGGAAAGATGCCTGAAAAAGTCCTTTCAAGATAGTCTTGAAGACATAAAGAAGCGAATGAAAG
AGAAAAGGAATAAAAACTTGGCAGAGATTGGCAAACGCAGGTCTTTTATAGCTGCACCATGCCAAATAAT
CACCAACACTTCTACACTGCTGAAAAATTACCAAGACAACAACAAAATGTTAGTTTTAGCTTTGGAAAAT
GAAAAATCCAAAGTGAAAGAAGCCCAAGATATCATCCTACAGCTGAGAAAAGAATGTTACTATCTCACAT
GTCAGCTATATGCATTGAAAGGAAAACTTACATCACAACAAACAGTAGAACCTGCTCAGAACCAGGAAAT
ATGTTCCTCTGGAATGGACCCCAATAGTGATGACAGCTCCAGAAATTTATTTGTGAAGGATTTACCGCAA
ATTCCTCTTGAAGAAACTGAACTTCCAGGACAAGGAGAATCATTTCAAATAGAAGATCAGATACCTACTA
TTCCTCAAGACACACTGGGAGTTGATTTTGATTCAGGTGAAGCTAAGTCTACTGATAATGTCTTACCTAG
AACTGTATCTGTTCGTAGCAGTTTAAAGAAACATTGTAACAGTATATGTCAGTTTGATAGCTTGGATGAT
TTTGAAACCAGTCATTTGGCAGGGAAGTCTTTTGAATTCGAAAGAGTTGGATTTTTAGACCCACTAGTAA
ACATGCACATACCTGAAAATGTACAACACAATGCTTGTCAATGGAGCAAGGACCAAGTTAACTTATCACC
AAAGCTGATTCAGCCAGGAACGTTTACTAAAACAAAAGAAGACATTTTAGAATCTAAATCTGAACAAACT
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ATCTGTCAGTTCCAATGATGCTTACAATTTTAATTTGGAAGAGGGTGTTCATCTTACTCCTTTCCGACAA
AAAGTGAGCAATGACTCTAATAGAGAAGAAAACAACGAGTCTGAAGTGAGCCTCTGTGAATCAAGTGGTT
CAGGAGATGATTCCGATGACCTCTATTTGCCCACTTGCAAGTACATTCAGAATCCCACGAGCAATTCAGA
TAGACCAGTCACCAGGCCTCTAGCTAAAAGAGCACTGAAATACACAGATGAAAAAGAGACGGAGGGTTCT
AAGCCAACAAAAACTCCTACCACTACACCACCTGAAACTCAGCAGTCACCTCATCTTAGCCTGAAGGATA
TCACCAATGTCTCCTTGTATCCTGTTGTGAAAATCAGAAGACTTTCTCTTTCTCCAAAAAAGAATAAAGC
AAGCCCAGCAGTGGCTCTGCCTAAACGTAGGTGCACAGCCAGCGTGAACTATAAGGAGCCCACCCTCGCT
TCGAAACTGAGAAGAGGGGACCCTTTTACAGATTTGTGTTTTTTGAATTCTCCTATTTTCAAGCAGAAAA
AGGATTTGAGACGTTCTAAAAAAAGAGCCCTGGAGGTATCACCTGCCAAAGAAGCAATTTTTATTTTATA
TTATGTTCGAGAATTTGTTTCGAGATTCCCAGACTGTAGGAAATGTAAACTTGAAACCCACATCTGCTTG
AGG

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

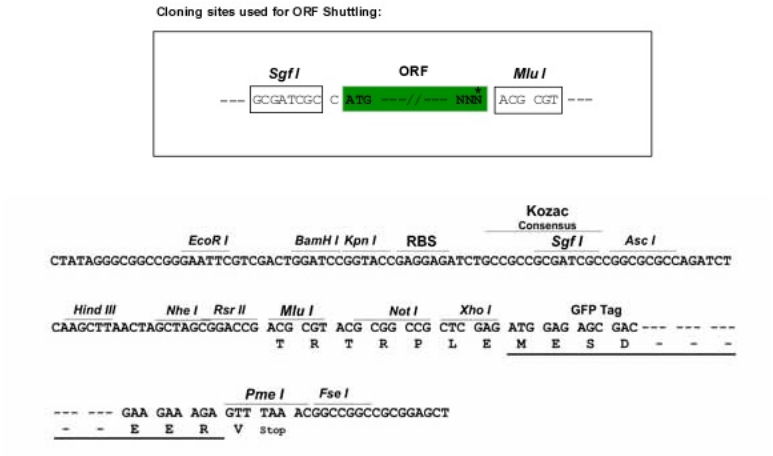
>RG234435 representing NM_001199252
Red=Cloning site Green=Tags(s)

MAKERCLKKSFQDSLEDIKKRMKEKRNKNLAEIGKRRSFIAAPCQIITNTSTLLKNYQDNNKMLVLALEN
EKSKVKEAQDIILQLRKECYYLTCQLYALKGKLTSQQTVEPAQNQEICSSGMDPNSDDSSRNLFVKDLPQ
IPLEETELPGQGESFQIEDQIPTIPQDTLGVDFDSGEAKSTDNVLPRTVSVRSSLKKHCNSICQFDSLDD
FETSHLAGKSFEFERVGFLDPLVNMHIPENVQHNACQWSKDQVNLSPKLIQPGTFTKTKEDILESKSEQT
KSKQRDTQERKREEKRKANRRKSKRMSKYKENKSENKKTVPQKKMHKSVSSNDAYNFNLEEGVHLTPFRQ
KVSNDSNREENNESEVSLCESSGSGDDSDDLYLPTCKYIQNPTSNSDRPVTRPLAKRALKYTDEKETEGS
KPTKTPTTTPPETQQSPHLSLKDITNVSLYPVVKIRRLSLSPKKNKASPAVALPKRRCTASVNYKEPTLA
SKLRRGDPFTDLCFLNSPIFKQKKDLRRSKKRALEVSPAKEAIFILYYVREFVSRFPDCRKCKLETHICL
R

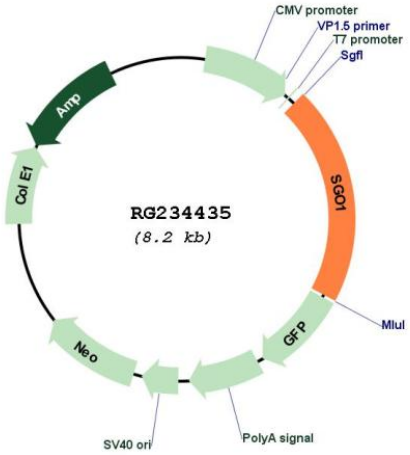
TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



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
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]