

## Product datasheet for **MG207693**

### Sesn2 (NM\_144907) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Sesn2 (NM_144907) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Sesn2
Synonyms:	HI95; Ses2; SEST2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG207693 representing NM\_144907  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGCATCGCC

ATGATCGTAGCGACTCCGAGTGCCATTCCGAGATCAAGGGCTACCTGCCGTTACCAGGGGTGGTGTGG  
 CCGGCCCCGAGACCCGAGAGGAGCATCGGGAGGGCCAGGCTCGGCGAGGCTCTCGAGGGCCAGCGCTTT  
 CATTCCAGTGGAAGAGATCCTTCGGGAAGGAGCTGAGAGCCTGGAGCAGCACCTGGGGCTCGAGGCCCTG  
 ATGTCCTCAGGGCGGGTGGACAACCTGGCGGTGGTATGGGTCTACACCCGGACTACCTAGCAGCTTCT  
 GGCCTGCTGATTACCTGCTGCTGCATACGGATGGGCCCTGGCCAGCTCCTGGCGCCACTACATTGCCAT  
 CATGGCTGCTGCCGTACCCAGTGTCTTACCTGGTGGGTCCCACATGACTGAGTTCCTGCAGACCGGC  
 GGTGACCCCGAGTGGCTGCTGGCCTTACCAGGGCCCTGAGAAGCTCCGCAAGCTCAGCGAGGTCAACA  
 AGTTACTGGCGCATCGCCGTGGCTCATACCAAGGAGCATATCCAGGCCTTGCTGAAGACTGGCGAGCA  
 CAGCTGGTCCCTGGCCGAACCTCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAGCAAG  
 GTGTTTGGCTGTGGAATACTTCTGAGGGAGATGCAGAGGGCAGCCCTGCCCTCCAGGCACCTTCGCCTC  
 CAGTGAGCAAGGCACCCCCGAGCGGGGACCCACTGAACAACCTCAGGGGGCTTGAAGCCGCTCGTGA  
 CGTAGAAGCTCTGATGGAACGCATGAGGCAGCTTCAGGAGAGCCTGCTGCGGGATGAGGGGGCTTCGCG  
 GAGGAAATGGAGAACCGTTTTGAGCTGGAGAAGTCAGAAAGCCTGCTGGTACCCCTCAGCGGATATCC  
 TGGAGCCTTCTCCACACCCAGACATCCTATGCTTTGTGGAGGACCCCGCATTTGGATATGAAGACTTAC  
 TCGTCGAGGGACTCAGGCGCCCCAACCTCCGTGCCAGGATTATACCTGGGAAGACCTGGCTACTCG  
 CTGATCCAGAGGCTCTACCCTGAGGGAGGGCAGCTGCTGGATGAGAAGTCCAGGTAGCCTGCAGCCTCA  
 CCTATAACACCATCGCCATGCACAGTGGGTGGACACCTCCATGCTCCGAGGGCCATCTGGAACCGAAC  
 CCACTGCGCTCTTTGGCATCAGATACGATGACTATGATTACGGCGAGGTAACCAGCTCCTGGAACCGAAC  
 CTCAAAATCTATATCAAGACGGTGGCCTGCTACCTGAGAAGACGACCCGTAGGATGTACAACTCTTTT  
 GGAGGCACTTCCGCCACTCAGAGAAGGTTATGTGAACCTGCTGCTCCTTGAAGCCCGCATGCAAGCGGC  
 CCTGCTCTATGCCCTGCGGCCATACCCGCTACATGACC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG207693 representing NM\_144907  
 Red=Cloning site Green=Tags(s)

MIVADSECHSEIKGYLPFTRGGVAGPETREEHREGQARRGSRGPSAFIPVEEILREGAESLEQHLGLEAL  
 MSSGRVDNLAVVMGLHPDYLSFWRLHYLLLHTDGPLASSWRHYIAIMAAARHQCSYLVGSHMTEFLQTG  
 GDPEWLLGLHRAPEKLRKLSEVNKLLAHRPWLITKEHIQALLKTGEHSWSLAELIQALVLLTHCHSLASF  
 VFGCGILPEGDAEGSPASQAPSPPEQGTTPPSGDPLNNSGGFEAARDVEALMERMRQLQESLLRDEGASQ  
 EEMENRFELEKSESLLVTPSADILEPSHPDILCFVEDPAFGYEDFTRRGTAQPTTFRAQDYTWEDHGYS  
 LIQRLYPEGGQLLDEKFQVACSLTYNTIAMHSGVDTSMRLRAIWNYYIHCVFIRYDDYDYGEVNLQLLERN  
 LKIYIKTVACYPEKTRRMYNLFWRHFRHSEKVVHVNLLLLLEARMQAALLYALRAITRYMT

TRTRPLE - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

Cloning Scheme:



ACCN: NM\_144907

ORF Size: 1440 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\\_144907.1](#), [NP\\_659156.1](#)

RefSeq Size: 2677 bp

RefSeq ORF: 1443 bp

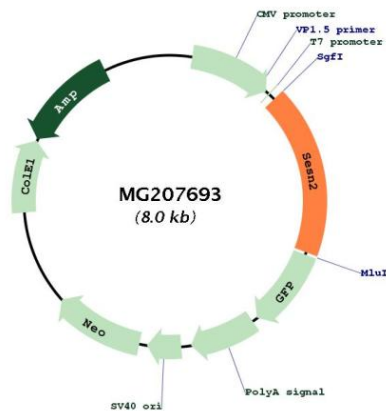
Locus ID: 230784

UniProt ID: [P58043](#)

Cytogenetics: 4 D2.3

**Gene Summary:** Functions as an intracellular leucine sensor that negatively regulates the TORC1 signaling pathway through the GATOR complex. In absence of leucine, binds the GATOR subcomplex GATOR2 and prevents TORC1 signaling. Binding of leucine to SESN2 disrupts its interaction with GATOR2 thereby activating the TORC1 signaling pathway (PubMed:18692468, PubMed:25259925). This stress-inducible metabolic regulator also plays a role in protection against oxidative and genotoxic stresses. May negatively regulate protein translation in response to endoplasmic reticulum stress, via TORC1 (PubMed:24947615). May positively regulate the transcription by NFE2L2 of genes involved in the response to oxidative stress by facilitating the SQSTM1-mediated autophagic degradation of KEAP1 (PubMed:23274085). May also mediate TP53 inhibition of TORC1 signaling upon genotoxic stress (PubMed:18692468). Has an alkylhydroperoxide reductase activity born by the N-terminal domain of the protein (By similarity). Was originally reported to contribute to oxidative stress resistance by reducing PRDX1 (By similarity). However, this could not be confirmed (By similarity).[UniProtKB/Swiss-Prot Function]

### Product images:



Circular map for MG207693