Product datasheet for RC201623L3

Gemin 1 (SMN2) (NM_022875) Human Tagged Lenti ORF Clone

Product data:

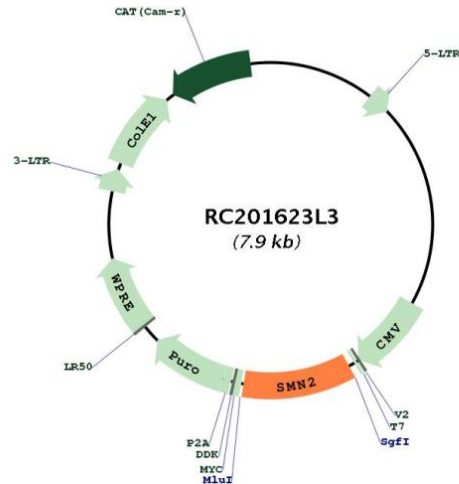|	
Product Type:	Expression Plasmids
Product Name:	Gemin 1 (SMN2) (NM_022875) Human Tagged Lenti ORF Clone
Tag:	Myc-DDK
Symbol:	Gemin 1
Synonyms:	BCD541; C-BCD541; GEMIN1; SMNC; TDRD16B
Mammalian Cell Selection:	Puromycin
Vector:	pLenti-C-Myc-DDK-P2A-Puro (PS100092)
E. coli Selection:	Chloramphenicol (34 ug/mL)
ORF Nucleotide Sequence:	The ORF insert of this clone is exactly the same as(RC201623).
Restriction Sites:	SgfI-MluI
Cloning Scheme:	

Cloning sites used for ORF Shuttling:

Sgf I   ORF   *Mlu I*
--- GCG ATC GC C ATG --- // --- NNŇ ACG CGT ---

EcoR I   *BamH I*   *RBS*   Kozak Consensus   *Sgf I*   ORF
CTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCCGCCGCGATCGC C ATG --- --- ---

Mlu I   *Not I* *Xho I*   Myc.Tag
--- --- --- --- --- --- NNŇ ACG CGT ACG CGG CCG CTC GAG CAG AAA CTC ATC TCA GAA GAG
                        T   R   T   R   P   L   E   Q   K   L   I   S   E   E

DDK.Tag
GAT CTG GCA GCA AAT GAT ATC CTG GAT TAC AAG GAT GAC GAC GAT AAG GTT TGGGTAGGAAG
 D   L   A   A   N   D   I   L   D   Y   K   D   D   D   D   K   V

* The last codon before the Stop codon of the ORF.

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Plasmid Map:

ACCN:	NM_022875
ORF Size:	846 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_022875.1, NP_075013.1
RefSeq Size:	1580 bp
RefSeq ORF:	849 bp

Locus ID:	6607
UniProt ID:	Q16637
Cytogenetics:	5q13.2
Protein Families:	Druggable Genome
MW:	30.5 kDa
Gene Summary:	This gene is part of a 500 kb inverted duplication on chromosome 5q13. This duplicated region contains at least four genes and repetitive elements which make it prone to rearrangements and deletions. The repetitiveness and complexity of the sequence have also caused difficulty in determining the organization of this genomic region. The telomeric and centromeric copies of this gene are nearly identical and encode the same protein. While mutations in the telomeric copy are associated with spinal muscular atrophy, mutations in this gene, the centromeric copy, do not lead to disease. This gene may be a modifier of disease caused by mutation in the telomeric copy. The critical sequence difference between the two genes is a single nucleotide in exon 7, which is thought to be an exon splice enhancer. Note that the nine exons of both the telomeric and centromeric copies are designated historically as exon 1, 2a, 2b, and 3-8. It is thought that gene conversion events may involve the two genes, leading to varying copy numbers of each gene. The full length protein encoded by this gene localizes to both the cytoplasm and the nucleus. Within the nucleus, the protein localizes to subnuclear bodies called gems which are found near coiled bodies containing high concentrations of small ribonucleoproteins (snRNPs). This protein forms heteromeric complexes with proteins such as SIP1 and GEMIN4, and also interacts with several proteins known to be involved in the biogenesis of snRNPs, such as hnRNP U protein and the small nucleolar RNA binding protein. Four transcript variants encoding distinct isoforms have been described. [provided by RefSeq, Sep 2008]