

Product datasheet for RC221367

SMN1 (NM_000344) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMN1 (NM_000344) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMN1
Synonyms:	BCD541; GEMIN1; SMA; SMA1; SMA2; SMA3; SMA4; SMA@; SMN; SMNT; T-BCD541; TDRD16A
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC221367 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCGATGAGCAGCGCGGCAGTGGTGGCGCGTCCCGGAGCAGGAGGATTCGGTGTGTTCCGGCGCG
GCACAGGCCAGAGCGATGATTCTGACATTTGGGATGATACAGCACTGATAAAAGCATATGATAAAGCTGT
GGCTTCATTTAAGCATGCTCTAAAGAATGGTGACATTTGTGAACTTCGGGTAACCAAAAACCACCT
AAAAGAAAACCTGCTAAGAAGAATAAAAGCCAAAAGAAGAATACTGCAGCTTCCTACAACAGTGGAAAG
TTGGGGACAAATGTTCTGCCATTTGGTCAAGACGGTTGCATTTACCCAGCTACCATTGCTTCAATTGA
TTTTAAGAGAGAAACCTGTGTTGTGTTTACACTGGATATGGAAATAGAGAGGAGCAAAATCTGTCCGAT
CTACTTTCCCAATCTGTGAAGTAGTAATAATAGAACAGAATGCTCAAGAGAATGAAATGAAAGCC
AAGTTTCAACAGATGAAAGTGAGAACTCCAGGTCTCCTGGAAATAAATCAGATAACATCAAGCCCAATC
TGCTCCATGGAATCTTTTCTCCCTCCACCACCCCCATGCCAGGGCCAAGACTGGGACCAGGAAAGCCA
GGTCTAAAATTCATGGCCACCACCGCCACCACCACCACCACCTTACTATCATGCTGGCTGC
CTCCATTTCTTGGACCACCAATAATCCCCACCCTCCCATATGTCCAGATTCTCTTGATGATGC
TGATGCTTTGGGAAGTATGTTAATTTATGGTACATGAGTGGCTATCATACTGGCTATTATATGGGTTTT
AGACAAAATCAAAAAGAAGGAAGGTGCTCACATTCCTTAAAT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000344.4](#)

RefSeq Size: 1641 bp

RefSeq ORF: 885 bp

Locus ID: 6606

UniProt ID: [Q16637](#)

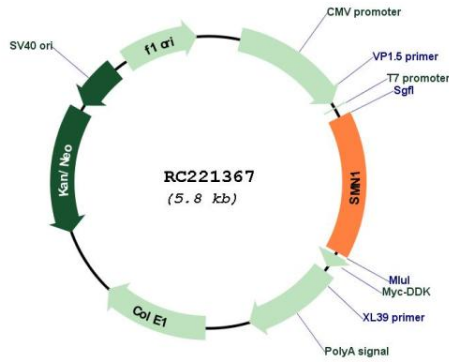
Cytogenetics: 5q13.2

Protein Families: Druggable Genome, Stem cell - Pluripotency

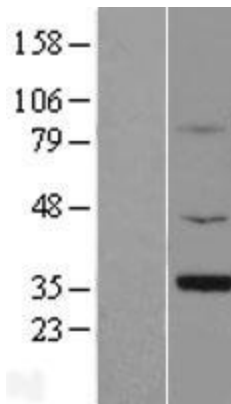
MW: 31.8 kDa

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. However, mutations in this gene, the telomeric copy, are associated with spinal muscular atrophy; mutations in the centromeric copy do not lead to disease. The centromeric copy 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 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. Multiple transcript variants encoding distinct isoforms have been described. [provided by RefSeq, Jul 2014]

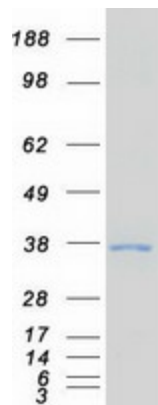
Product images:



Circular map for RC221367



Western blot validation of overexpression lysate (Cat# [LY424781]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC221367 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SMN1 protein (Cat# [TP321367]). The protein was produced from HEK293T cells transfected with SMN1 cDNA clone (Cat# RC221367) using MegaTran 2.0 (Cat# [TT210002]).