

Recombinant Human SMN1 Protein, DYKDDDDK-tagged

Cat. No. SMN1-152H Lot. No. (See product label)

SPECIFICATION

Product Overview

Recombinant Human survival of motor neuron 1, telomeric(SMN1) protein, transcript variant b(NM_022874), with a DYKDDDDK tag, was expressed in human cells.

Species

Human

Source

Human Cells

Description

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

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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.

Form Purified protein formulated in a sterile solution of TBS buffer, pH7.155, without any preservatives.

Molecular Mass 28.4 kDa

Endotoxin Endotoxin level is < 0.1 ng/g of protein (<1EU /g)

Purity >90% by SDS-PAGE gel and Coomassie Blue staining

Applications Antigens, Western, ELISA and other in vitro binding or in vivo functional assays, and protein-protein interaction studies.

GENE INFORMATION

Gene Name [SMN1 survival of motor neuron 1, telomeric \[Homo sapiens \]](#)

Official Symbol [SMN1](#)

Synonyms SMN1; survival of motor neuron 1, telomeric; SMA, SMA@, spinal muscular atrophy (Werdnig Hoffmann disease, Kugelberg Welander disease); survival motor neuron protein; BCD541; SMA1; SMA2; SMA3; SMNT; gemin 1; gemin-1; component of gems 1; SMA; SMN; SMA4; SMA@; SMN2; T-BCD541;

Gene ID [6606](#)

mRNA Refseq [NM_000344](#)

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Protein Refseq	NP_000335
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UniProt ID	Q16637

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