SMN2 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	SMN2, Polyclonal Antibody
Full Product Name	SMN2 Rabbit pAb
Product Gene Name	anti-SMN2 antibody
Product Synonym Names	SMNC; BCD541; GEMIN1; TDRD16B; C-BCD541
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	PBS with 0.02% Sodium Azide, 50% Glycerol, pH 7.3.
Purity/Purification	Affinity Purified
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
Molecular Weight	35kDa
OMIM	253300
3D Structure	ModBase 3D Structure for Q16637
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 1-197 of human SMN2 (NP_059107.1).
Cellular Localization	Cell Projection, Cytoplasm, Nucleus
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-SMN2 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunofluorescence (IF)
Application Notes for anti-SMN2 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200 IF: 1:50-1:200
Related Product Information for anti-SMN2 antibody	The SMN complex plays a catalyst role in the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome. Thereby, plays an important role in the splicing of cellular pre-mRNAs. Most spliceosomal snRNPs contain a common set of Sm proteins SNRPB, SNRPD1, SNRPD2, SNRPD3, SNRPE, SNRPF and SNRPG that assemble in a heptameric protein ring on the Sm site of the small nuclear RNA to form the core snRNP. In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP. Dissociation by the SMN complex of CLNS1A from the trapped Sm proteins and their transfer to an SMN-Sm complex triggers the assembly of core snRNPs and their transport to the nucleus. Ensures the correct splicing of U12 intron-containing genes that may be important for normal motor and proprioceptive neurons development. Also required for resolving RNA-DNA hybrids created by RNA polymerase II, that form R-loop in transcription terminal regions, an important step in proper transcription termination. May also play a role in the metabolism of small nucleolar ribonucleoprotein (snoRNPs).
Other Notes	Small volumes of anti-SMN2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for SMN2 purchase	MBS8548377 is an antibody targeting SMN2. Also known as SMN2 Rabbit pAb. Reactive in Human, Mouse, Rat. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SMN2. It may not necessarily be applicable to this product.

NCBI GI #	663070994
NCBI Accession #	NP_001284644.1
UniProt Primary Accession #	Q16637
GenBank Nucleotide #	NP_001284644.1
NCBI Official Full Name	survival motor neuron protein isoform a
UniProt Protein Name	Survival motor neuron protein
UniProt Synonym Protein Names	Component of gems 1; Gemin-1
UniProt Gene Name	SMN1
UniProt Synonym Gene Names	SMN; SMNT
UniProt Entry Name	SMN_HUMAN
UniProt Comments for SMN2	SMN: The SMN complex plays an essential role in spliceosomal snRNP assembly in the cytoplasm and is required for pre-mRNA splicing in the nucleus. It may also play a role in the metabolism of snoRNPs. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 1 (SMA1). Spinal muscular atrophy refers to a group of neuromuscular disorders characterized by degeneration of the anterior horn cells of the spinal cord, leading to symmetrical muscle weakness and atrophy. Autosomal recessive forms are classified according to the age of onset, the maximum muscular activity achieved, and survivorship. The severity of the disease is mainly determined by the copy number of SMN2, a copy gene which predominantly produces exon 7-skipped transcripts and only low amount of full-length transcripts that encode for a protein identical to SMN1. Only about 4% of SMA patients bear one SMN1 copy with an intragenic mutation. SMA1 is a severe form, with onset before 6 months of age. SMA1 patients never achieve the ability to sit. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 2 (SMA2). SMA2 is an autosomal recessive spinal muscular atrophy of intermediate severity, with onset between 6 and 18 months. Patients do not reach the motor milestone of standing, and survive into adulthood. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 3 (SMA3). SMA3 is an autosomal recessive spinal muscular atrophy with onset after 18 months. SMA3 patients develop ability to stand and walk and survive into adulthood. Defects in SMN1 are the cause of spinal muscular atrophy autosomal recessive type 4 (SMA4). SMA4 is an autosomal recessive spinal muscular atrophy characterized by symmetric proximal muscle weakness with onset in adulthood and slow disease progression. SMA4 patients can stand and walk. Belongs to the SMN family. 4 isoforms of the human protein are produced by alternative splicing. Protein type: RNA-binding; RNA processing Chromosomal Location of Human Ortholog: 5q13.2 Cellular Component: nucleoplasm; spliceosome; Cajal body; cytoplasm; SMN complex; nucleus; Z disc; cytosol Molecular Function: identical protein binding; protein binding; RNA binding Biological Process: nervous system development; spliceosomal snRNP biogenesis; spliceosome assembly; gene expression Disease: Spinal Muscular Atrophy, Type Ii; Spinal Muscular Atrophy, Type Iii; Spinal Muscular Atrophy, Type Iv; Spinal Muscular Atrophy, Type I
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