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KD-Validated Anti-GEMIN2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1543

Product Information

Application	WB, FC
Primary Accession	O14893
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB5835
Calculated MW	31585
Gene Name	GEMIN2
Aliases	GEMIN2; Gem Nuclear Organelle Associated Protein 2; SIP1; Survival Of Motor Neuron Protein Interacting Protein 1; Gem-Associated Protein; Component Of Gems; Gemin-2; Survival Of Motor Neuron Protein-Interacting Protein 1; Gem (Nuclear Organelle) Associated Protein 2; SMN Interacting Protein 1-Delta; SMN-Interacting Protein 1; SIP1-Delta
Immunogen	A synthesized peptide derived from human Gemin 2

Additional Information

Gene ID	8487
Other Names	Gem-associated protein 2, Gemin-2, Component of gems 2, Survival of motor neuron protein-interacting protein 1, SMN-interacting protein 1, GEMIN2 (HGNC:10884), SIP1

Protein Information

Name	GEMIN2 (HGNC:10884)
Synonyms	SIP1
Function	The SMN complex catalyzes the assembly of small nuclear ribonucleoproteins (snRNPs), the building blocks of the spliceosome, and thereby plays an important role in the splicing of cellular pre- mRNAs (PubMed:18984161, PubMed:9323129). 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 (Sm core) (PubMed:18984161). In the cytosol, the Sm proteins SNRPD1, SNRPD2, SNRPE, SNRPF and SNRPG (5Sm) are trapped in an inactive 6S pICln-Sm complex by the chaperone CLNS1A that controls the assembly of the core snRNP (PubMed:18984161). To assemble core snRNPs, the SMN complex accepts the trapped 5Sm proteins from CLNS1A (PubMed:18984161, PubMed:9323129). Binding of snRNA inside 5Sm ultimately triggers eviction of the SMN complex, thereby allowing

	binding of SNRPD3 and SNRPB to complete assembly of the core snRNP (PubMed:31799625). Within the SMN complex, GEMIN2 constrains the conformation of 5Sm, thereby promoting 5Sm binding to snRNA containing the snRNP code (a nonameric Sm site and a 3'-adjacent stem-loop), thus preventing progression of assembly until a cognate substrate is bound (PubMed:16314521, PubMed:21816274, PubMed:31799625).
Cellular Location	Nucleus, gem. Cytoplasm. Note=Localized in subnuclear structures next to coiled bodies, called gems, which are highly enriched in spliceosomal snRNPs. Also found in the cytoplasm