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Gemin 2 Rabbit pAb

Catalog # AP98299

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O14893
Other Accession	O14893
Reactivity	Rat
Predicted	Human, Mouse, Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31585
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human SIP1
Epitope Specificity	51-150/280
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the gemin-2 family.
SUBUNIT	Part of the core SMN complex that contains SMN1, GEMIN2/SIP1, DDX20/GEMIN3, GEMIN4, GEMIN5, GEMIN6, GEMIN7, GEMIN8 and STRAP/UNRIP. Interacts directly with GEMIN5.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes one of the proteins found in the SMN complex, which consists of several gemin proteins and the protein known as the survival of motor neuron protein. The SMN complex is localized to a subnuclear compartment called gems (gemini of coiled bodies) and is required for assembly of spliceosomal snRNPs and for pre-mRNA splicing. This protein interacts directly with the survival of motor neuron protein and it is required for formation of the SMN complex. A knockout mouse targeting the mouse homolog of this gene exhibited disrupted snRNP assembly and motor neuron degeneration. [provided by RefSeq, Aug 2011].

Additional Information

Gene ID	8487
Other Names	SIP1; SIP1-delta; gemin-2; GEMI2_HUMAN; GEMIN2; Component of gems 2; Survival of motor neuron protein-interacting protein 1 (SMN-interacting protein 1); GEMI2_MOUSE; GEMI2_RAT; gem nuclear organelle associated protein 2; survival of motor neuron protein interacting protein 1; gem (nuclear organelle) associated protein 2
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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

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