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SIP1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5318

Product Information

Application	WB
Primary Accession	O14893
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	31585
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	8487
Antigen Region	244-277
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, SIP1
Dilution	WB~~1:1000
Target/Specificity	This SIP1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 244-277 amino acids from the C-terminal region of human SIP1.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SIP1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

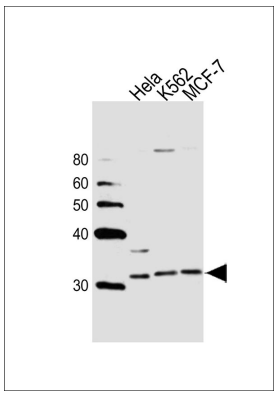
Background

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.

References

Liu Q.,et al.Cell 90:1013-1021(1997).
Aerbajinai W.,et al.Int. J. Biochem. Cell Biol. 34:699-707(2002).
Helmken C.,et al.Eur. J. Hum. Genet. 8:493-499(2000).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gubitz A.K.,et al.J. Biol. Chem. 277:5631-5636(2002).

Images



Western blot analysis of lysates from Hela,K562,MCF-7 cell line (from left to right), using SIP1 Antibody (C-term)(Cat. #AW5318). AW5318 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.