

# Gemin6 (A-4): sc-514919

## BACKGROUND

Spinal muscular atrophy (SMA) is an autosomal recessive neurodegenerative disease characterized by loss of motor neurons in the spinal cord. SMA is caused by deletion or loss-of-function mutations in the SMN (survival of motor neuron) gene. Gemin6, the protein product of human chromosome 2p22.1, associates directly with SMN and is a part of the SMN complex containing Gemin2, Gemin3, Gemin4 and Gemin5 as well as several spliceosomal snRNP proteins. The SMN complex plays an essential role in spliceosomal snRNP assembly in the cytoplasm and is required for pre-mRNA splicing of the nucleus. The SMN complex is found in both the cytoplasm and the nucleus. The nuclear form is concentrated in subnuclear bodies called gems (Gemini of the coiled bodies).

## REFERENCES

1. Fischer, U., Liu, Q. and Dreyfuss, G. 1997. The SMN-SIP1 complex has an essential role in spliceosomal snRNP biogenesis. *Cell* 90: 1023-1029.
2. Coovert, D., Le, T., McAndrew, P., Strasswimmer, J., Crawford, T., Mendell, J., Coulson, S., Androphy, E., Prior, T. and Burghes, A. 1997. The survival motor neuron protein in spinal muscular atrophy. *Hum. Mol. Genet.* 6: 1205-1214.
3. Monani, U., Lorson, C., Parsons, D., Prior, T., Androphy, E., Borghes, A. and McPherson, J. 1999. A single nucleotide difference that alters splicing patterns distinguishes the SMA gene SMN1 from the copy gene SMN2. *Hum. Mol. Genet.* 8: 1177-1183.
4. Meister, G., Buhler, D., Lafferbauer, B., Zobawa, M., Lottspeich, F. and Fisher, U. 2000. Characterization of a nuclear 20S complex containing the survival of motor neurons (SMN) protein and a specific subset of spliceosomal Sm proteins. *Hum. Mol. Genet.* 9: 1977-1986.

## CHROMOSOMAL LOCATION

Genetic locus: GEMIN6 (human) mapping to 2p22.1.

## SOURCE

Gemin6 (A-4) is a mouse monoclonal antibody raised against amino acids 1-167 representing full length Gemin6 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Gemin6 (A-4) is available conjugated to agarose (sc-514919 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514919 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514919 PE), fluorescein (sc-514919 FITC), Alexa Fluor® 488 (sc-514919 AF488), Alexa Fluor® 546 (sc-514919 AF546), Alexa Fluor® 594 (sc-514919 AF594) or Alexa Fluor® 647 (sc-514919 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514919 AF680) or Alexa Fluor® 790 (sc-514919 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Gemin6 (A-4) is recommended for detection of Gemin6 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Gemin6 siRNA (h): sc-42132, Gemin6 shRNA Plasmid (h): sc-42132-SH and Gemin6 shRNA (h) Lentiviral Particles: sc-42132-V.

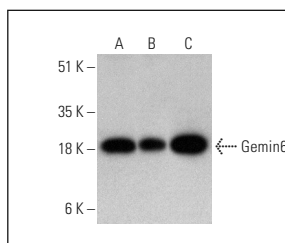
Molecular Weight of Gemin6: 19 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SW-13 cell lysate: sc-24778 or HEK293 whole cell lysate: sc-45136.

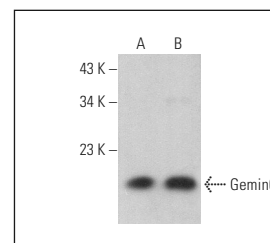
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Gemin6 (A-6): sc-514919. Western blot analysis of Gemin6 expression in HeLa (A), SW-13 (B) and HEK293 (C) whole cell lysates.



Gemin6 (A-4): sc-514919. Western blot analysis of Gemin6 expression in HeLa (A) and Jurkat (B) whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.