SANTA CRUZ BIOTECHNOLOGY, INC.

Gemin4 (17D10): sc-136199

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Gemin4 is a component of the SMN core complex which, while in the cytoplasm, plays an essential role in ribonucleoprotein (snRNP) assembly, including the biogenesis, delivery and recycling of snRNPs to the spliceosome. In the nucleus, where SMN is required for pre-mRNA splicing, Gemin4 concentrates next to coiled bodies in subnuclear structures called gems, that are highly enriched in splicosomal snRNPs, and in the nucleolus. Deletion or loss-of-function mutations in the SMN lead to the neurodegenerative disease spinal muscular atrophy (SMA). The human Gemin4 maps to chromosome 17p13.3.

REFERENCES

1. Charroux, B., et al. 2000. Gemin4. A novel component of the SMN complex that is found in both gems and nucleoli. J. Cell Biol. 148: 1177-1186.
2. Park, J.W., et al. 2001. Association of galectin-1 and galectin-3 with Gemin4 in complexes containing the SMN protein. Nucleic Acids Res. 29: 3595-3602.
3. Mourelatos, Z., et al. 2001. SMN interacts with a novel family of hnRNP and spliceosomal proteins. EMBO J. 20: 5443-5452.
4. Di, L., et al. 2003. HCC-associated protein HCAP1, a variant of Gemin4, interacts with zinc-finger proteins. J. Biochem. 133: 713-718.
5. Patterson, R.J., et al. 2004. Understanding the biochemical activities of galectin-1 and galectin-3 in the nucleus. Glycoconj. J. 19: 499-506.
6. Wang, J.L., et al. 2004. Nucleocytoplasmic lectins. Biochim. Biophys. Acta 1673: 75-93.
7. SWISS-PROT/TrEMBL (P57678). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html.

CHROMOSOMAL LOCATION

Genetic locus: GEMIN4 (human) mapping to 17p13.3; Gemin4 (mouse) mapping to 11 B5.

SOURCE

Gemin4 (17D10) is a mouse monoclonal antibody raised against amino acids 611-1058 corresponding to Gemin4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Gemin4 (17D10) is recommended for detection of Gemin4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Gemin4 siRNA (h): sc-43799, Gemin4 siRNA (m): sc-44827, Gemin4 shRNA Plasmid (h): sc-43799-SH, Gemin4 shRNA Plasmid (m): sc-44827-SH, Gemin4 shRNA (h) Lentiviral Particles: sc-43799-V and Gemin4 shRNA (m) Lentiviral Particles: sc-44827-V.

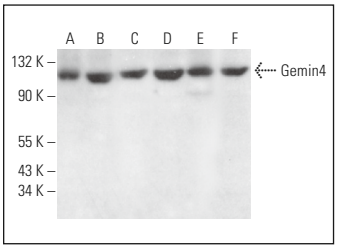
Molecular Weight of Gemin4: 120 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, SK-N-SH cell lysate: sc-2410 or Hep G2 cell lysate: sc-2227.

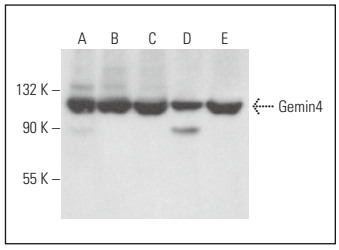
RECOMMENDED SUPPORT REAGENTS

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



Gemin4 (17D10): sc-136199. Western blot analysis of Gemin4 expression in PC-3 (**A**), SK-N-SH (**B**), U-251-MG (**C**), F9 (**D**), Neuro-2A (**E**) and AT3B-1 (**F**) whole cell lysates.



Gemin4 (17D10): sc-136199. Western blot analysis of Gemin4 expression in Hep G2 (**A**), A549 (**B**), Daudi (**C**), HOS (**D**) and SW480 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Battle, D.J., et al. 2007. SMN-independent subunits of the SMN complex. Identification of a small nuclear ribonucleoprotein assembly intermediate. J. Biol. Chem. 282: 27953-27959.

RESEARCH USE

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