SANTA CRUZ BIOTECHNOLOGY, INC.

Gemin4 (E-8): sc-365424

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.

CHROMOSOMAL LOCATION

Genetic locus: GEMIN4 (human) mapping to 17p13.3.

SOURCE

Gemin4 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1019-1053 at the C-terminus of 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.

Gemin4 (E-8) is available conjugated to agarose (sc-365424 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365424 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365424 PE), fluorescein (sc-365424 FITC), Alexa Fluor® 488 (sc-365424 AF488), Alexa Fluor® 546 (sc-365424 AF546), Alexa Fluor® 594 (sc-365424 AF594) or Alexa Fluor® 647 (sc-365424 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365424 AF680) or Alexa Fluor® 790 (sc-365424 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365424 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

Gemin4 (E-8) is recommended for detection of Gemin4 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), immunohistochemistry (including paraffin-embedded sections) (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 Gemin4 siRNA (h): sc-43799, Gemin4 shRNA Plasmid (h): sc-43799-SH and Gemin4 shRNA (h) Lentiviral Particles: sc-43799-V.

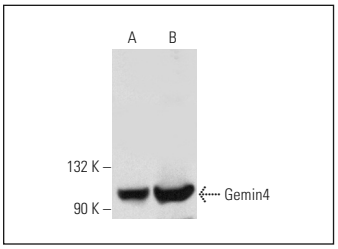
Molecular Weight of Gemin4: 120 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HEK293 whole cell lysate: sc-45136 or SK-N-SH cell lysate: sc-2410.

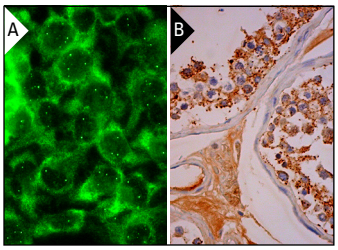
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Gemin4 (E-8): sc-365424. Western blot analysis of Gemin4 expression in Hep G2 (**A**) and HEK293 (**B**) whole cell lysates.



Gemin4 (E-8): sc-365424. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Yamazaki, T., et al. 2012. FUS-SMN protein interactions link the motor neuron diseases ALS and SMA. Cell Rep. 25: 799-806.
2. Yu, Y., et al. 2015. U1 snRNP is mislocalized in ALS patient fibroblasts bearing NLS mutations in FUS and is required for motor neuron outgrowth in zebrafish. Nucleic Acids Res. 43: 3208-3218.

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 for detailed protocols and support products.