

Gemin3 (H-145): sc-50405

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. Gemin3, also known as DP103, DDX20, DEAD-box protein DP130 and DEAD/H box 20, is a protein product of human chromosome 1p13.2. It associates directly with SMN and is a part of the SMN complex containing Gemin2, Gemin4, Gemin5 and Gemin6, 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. It is found in both the cytoplasm and the nucleus. The nuclear form is concentrated in subnuclear bodies called gems (for Gemini of the coiled bodies). Gemin3 also interacts with SmB, SmD2 and SmD3. It contains the conserved motif Asp-Glu-Ala-Asp (DEAD) characteristic of DEAD-box proteins. Gemin3 is a putative RNA helicase and shows ATPase activity. It is expressed in B and T cell neuroblastoma-derived cell lines, malignant melanoma tumor, normal testis and is expressed in low levels in colon, skeletal muscle, liver, kidney and lung.

CHROMOSOMAL LOCATION

Genetic locus: DDX20 (human) mapping to 1p13.2; Ddx20 (mouse) mapping to 3 F2.2.

SOURCE

Gemin3 (H-145) is a rabbit polyclonal antibody raised against amino acids 216-360 mapping within an internal region of Gemin3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Gemin3 (H-145) is recommended for detection of Gemin3 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)], 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).

Gemin3 (H-145) is also recommended for detection of Gemin3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Gemin3 siRNA (h): sc-43798, Gemin3 siRNA (m): sc-60050, Gemin3 shRNA Plasmid (h): sc-43798-SH, Gemin3 shRNA Plasmid (m): sc-60050-SH, Gemin3 shRNA (h) Lentiviral Particles: sc-43798-V and Gemin3 shRNA (m) Lentiviral Particles: sc-60050-V.

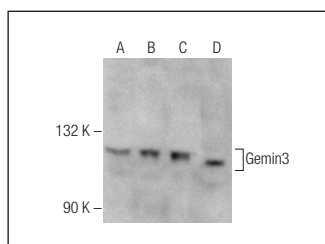
Molecular Weight of Gemin3: 103 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa nuclear extract: sc-2120 or CCRF-CEM nuclear extract: sc-2146.

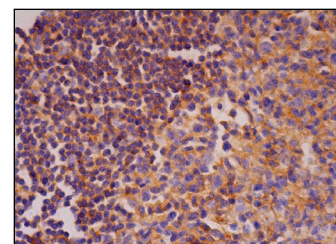
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Gemin3 (H-145): sc-50405. Western blot analysis of Gemin3 expression in HeLa (A), Jurkat (B) and CCRF-CEM (C) nuclear extracts and Jurkat whole cell lysate (D).



Gemin3 (H-145): sc-50405. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers.

SELECT PRODUCT CITATIONS

1. Hsu, Y.Y., et al. 2012. Triptolide increases SMN transcript and protein levels in human SMA fibroblasts and improves survival in SMA-like mice. *Br. J. Pharmacol.* 166: 1114-1126.

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 or our catalog for detailed protocols and support products.



Try **Gemin3 (12H12): sc-57007** or **Gemin3 (C-5): sc-374373**, our highly recommended monoclonal alternatives to Gemin3 (H-145).