# SANTA CRUZ BIOTECHNOLOGY, INC.

# Gemin8 (A-12): sc-376419



BACKGROUND

Gemin8 is a 242 amino acid protein encoded by the mouse gene Gemin8. Gemin8, along with Gemins 2-7 and unrip, is a major component of the large multiprotein survival of motor neurons (SMN) complex. The survival of motor neurons (SMN) protein, a product of the disease gene of the common neurodegenerative disease spinal muscular atrophy, is also part of the SMN complex. The SMN complex is a modular composition of proteins with SMN, Gemin8, and Gemin7 in its center. The SMN complex functions as an assembly machine for small nuclear ribonucleoproteins (snRNPs)-the major components of the spliceosome. Gemin8 binds directly to SMN and mediates its interaction with the Gemin6/Gemin7 heterodimer. Importantly, the loss of Gemin6, Gemin7, and Unrip interaction with SMN as a result of Gemin8 knockdown affects snRNP assembly by impairing the SMN complex association with Sm proteins but not with snRNAs. The Gemin6/Gemin7 complex binds to Sm proteins and might help organize Sm proteins for formation of Sm RINGs on snRNA targets.

# REFERENCES

- Massenet, S., et al. 2002. The SMN complex is associated with snRNPs throughout their cytoplasmic assembly pathway. Mol. Cell. Biol. 22: 6533-6541.
- Shpargel, K.B. and Matera, A.G. 2005. Gemin proteins are required for efficient assembly of Sm-class ribonucleoproteins. Proc. Natl. Acad. Sci. USA 102: 17372-17377.
- Carissimi, C., et al. 2006. Gemin8 is a novel component of the survival motor neuron complex and functions in small nuclear ribonucleoprotein assembly. J. Biol. Chem. 281: 8126-8134.
- Carissimi, C., et al. 2006. Gemin8 is required for the architecture and function of the survival motor neuron complex. J. Biol. Chem. 281: 37009-37016.
- Zhang, H., et al. 2006. Multiprotein complexes of the survival of motor neuron protein SMN with Gemins traffic to neuronal processes and growth cones of motor neurons. J. Neurosci. 26: 8622-8632.

## CHROMOSOMAL LOCATION

Genetic locus: GEMIN8 (human) mapping to Xp22.2; Gemin8 (mouse) mapping to X F5.

#### SOURCE

Gemin8 (A-12) is a mouse monoclonal antibody raised against amino acids 1-242 representing full length Gemin8 of human origin.

# PRODUCT

Each vial contains 200  $\mu g$  lgG\_1 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

## **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Gemin8 (A-12) is recommended for detection of Gemin8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 Gemin8 siRNA (h): sc-62372, Gemin8 siRNA (m): sc-62373, Gemin8 shRNA Plasmid (h): sc-62372-SH, Gemin8 shRNA Plasmid (m): sc-62373-SH, Gemin8 shRNA (h) Lentiviral Particles: sc-62372-V and Gemin8 shRNA (m) Lentiviral Particles: sc-62373-V.

Molecular Weight of Gemin8: 32 kDa.

Positive Controls: SW480 cell lysate: sc-2219, T84 whole cell lysate: sc-364797 or HCT-116 whole cell lysate: sc-364175.

#### **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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> 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





Gemin8 (A-12): sc-376419. Western blot analysis of Gemin8 expression in SW480 ( $\pmb{A}$ ), T84 ( $\pmb{B}$ ) and HCT-116 ( $\pmb{C}$ ) whole cell lysates.

Gemin8 (A-12): sc-376419. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing nuclear staining of glandular cells.

#### SELECT PRODUCT CITATIONS

 Sulejczak, D., et al. 2018. Sporadic amyotrophic lateral sclerosis: is SMN-Gemins protein complex of importance for the relative resistance of oculomotor nucleus motoneurons to degeneration? Folia Neuropathol. 56: 308-320.

## **RESEARCH USE**

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