SANTA CRUZ BIOTECHNOLOGY, INC.

Gemin8 (FL-242): sc-68374

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The Power to Question

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

1. Massenet, S., et al. 2002. The SMN complex is associated with snRNPs throughout their cytoplasmic assembly pathway. Mol. Cell. Biol. 22: 6533-6541.
2. 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.
3. 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.
4. 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.
5. 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.
6. Otter, S., et al. 2007. A comprehensive interaction map of the human survival of motor neuron (SMN) complex. J. Biol. Chem. 282: 5825-5833.

CHROMOSOMAL LOCATION

Genetic locus: GEMIN8 (human) mapping to Xp22.2.

SOURCE

Gemin8 (FL-242) is a rabbit polyclonal antibody raised against amino acids 1-242 representing full length Gemin8 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.

STORAGE

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

APPLICATIONS

Gemin8 (FL-242) is recommended for detection of Gemin8 of 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) 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 shRNA Plasmid (h): sc-62372-SH and Gemin8 shRNA (h) Lentiviral Particles: sc-62372-V.

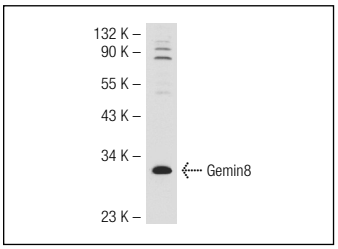
Molecular Weight of Gemin8: 32 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

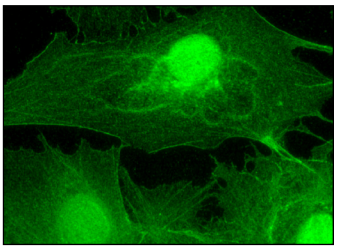
RECOMMENDED SECONDARY REAGENTS

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.

DATA



Gemin8 (FL-242): sc-68374. Western blot analysis of Gemin8 expression in COLO 320DM whole cell lysate.



Gemin8 (FL-242): sc-68374. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear and membrane localization.

RESEARCH USE

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