

hnRNP Q (G-6): sc-271016

BACKGROUND

Pre-mRNA splicing is a critical step in the post-transcriptional regulation of gene expression. Heterogeneous nuclear ribonucleoprotein Q (hnRNP Q) is involved in RNA processing and is necessary for efficient pre-mRNA splicing. hnRNP is widely expressed and developmentally regulated. hnRNP Q interacts with survival motor neuron protein (SMN). Loss of function of SMN results in spinal muscular atrophy, a common neurodegenerative disease. The most common deletion in SMN genes disrupts the interaction between SMN and hnRNP Q. hnRNP Q is upregulated after midnight, and this upregulation correlates with an abrupt decline in AANAT, the key enzyme in melatonin synthesis. Rhythmic AANAT mRNA degradation mediated in part by hnRNP Q implicates this enzyme in the regulation of circadian oscillation.

REFERENCES

1. Chou, M.Y., et al. 1999. hnRNP H is a component of alternative exon in neuronal cells. *Mol. Cell. Biol.* 19: 69-77.
2. Thebault, S., et al. 2000. Two-dimensional electrophoresis and mass spectrometry identification of proteins bound by a murine monoclonal anti-cardiolipin antibody: a powerful technique to characterize the cross-reactivity of a single autoantibody. *Electrophoresis* 21: 2531-2539.
3. Mourelatos, Z., et al. 2001. SMN interacts with a novel family of hnRNP and spliceosomal proteins. *EMBO J.* 20: 5443-5452.
4. Carty, S.M. and Greenleaf, A.L. 2002. Hyperphosphorylated C-terminal repeat domain-associating proteins in the nuclear proteome link transcription to DNA/chromatin modification and RNA processing. *Mol. Cell. Proteomics* 1: 598-610.
5. Rossoll, W., et al. 2002. Specific interaction of SMN, the spinal muscular atrophy determining gene product, with hnRNP R and gry-rbp/hnRNP Q: a role for SMN in RNA processing in motor axons? *Hum. Mol. Genet.* 11: 93-105.
6. Helmken, C., et al. 2003. Evidence for a modifying pathway in SMA discordant families: reduced SMN level decreases the amount of its interacting partners and Htra2- β 1. *Hum. Genet.* 114: 11-21.
7. Kinnaird, J.H., et al. 2004. HRP-2, a heterogeneous nuclear ribonucleoprotein, is essential for embryogenesis and oogenesis in *Caenorhabditis elegans*. *Exp. Cell Res.* 298: 418-430.

CHROMOSOMAL LOCATION

Genetic locus: SYNCRIP (human) mapping to 6q14.3; Syncrip (mouse) mapping to 9 E3.1.

SOURCE

hnRNP Q (G-6) is a mouse monoclonal antibody raised against amino acids 373-432 mapping within an internal region of hnRNP Q of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271016 X, 200 μ g/0.1 ml.

APPLICATIONS

hnRNP Q (G-6) is recommended for detection of hnRNP Q of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 hnRNP Q siRNA (h): sc-72096, hnRNP Q siRNA (m): sc-72097, hnRNP Q shRNA Plasmid (h): sc-72096-SH, hnRNP Q shRNA Plasmid (m): sc-72097-SH, hnRNP Q shRNA (h) Lentiviral Particles: sc-72096-V and hnRNP Q shRNA (m) Lentiviral Particles: sc-72097-V.

hnRNP Q (G-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of hnRNP Q: 70 kDa.

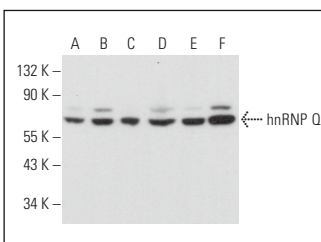
Molecular Weight of hnRNP R: 82 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-22000 or hnRNP Q (h): 293T Lysate: sc-115273.

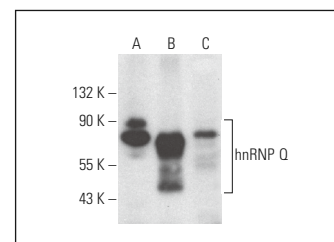
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



hnRNP Q (G-6): sc-271016. Western blot analysis of hnRNP Q expression in WI-38 (A), Hep G2 (B), HeLa (C), T-47D (D), Jurkat (E) and A549 (F) whole cell lysates.



hnRNP Q (G-6): sc-271016. Western blot analysis of hnRNP Q expression in non-transfected 293T: sc-117752 (A), human hnRNP Q transfected 293T: sc-115273 (B) and A549 (C) whole cell lysates.

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.