SANTA CRUZ BIOTECHNOLOGY, INC.

NDH II (N-12): sc-46421

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pre-mRNA splicing is a critical step in the post-transcriptional regulation of gene expression. Several protein complexes are involved in proper mRNA splicing and transport. The small nuclear ribonucleoprotein particles (snRNPs) interact with the SRm160/300 splicing coactivator complex to form a large RNA spliceosome. The heterogeneous nuclear ribonucleoproteins (hnRNPs) contribute to the processing and transport of pre-mRNA within the spliceosome. Also, the exon junction complex (EJC), which includes Y14, Aly/REF, and Magoh mediates mRNA export, cytoplasmic localization, and nonsense-mediated mRNA decay. The effect on pre-mRNA splicing involves a nuclear complex (CBC). CBC consists of two cap binding proteins CBP20 and CBP80, which mediate the stimulatory functions of the cap in pre-mRNA splicing, 3'-end formation, and U snRNA export. The splicing factor 1 is a nuclear protein that binds the branch point sequence of pre-mRNA in the first step of spliceosome assembly. SRp55 modulates the selection of alternative splice sites in constitutive splicing and NDH II generates secondary structures that interact with RNA-binding proteins. MDA5 is an ATP-dependent RNA helicase associated with the growth, differentiation and death of human melanoma cells.

REFERENCES

1. Kang, D.C., et al. 2002. mda-5: An interferon-inducible putative RNA helicase with double-stranded RNA-dependent ATPase activity and melanoma growth-suppressive properties. Proc. Natl. Acad. Sci. USA 99: 637-642.
2. Zhang, S., et al. 2004. Multiple functions of nuclear DNA helicase II (RNA helicase A) in nucleic acid metabolism. Acta Biochim. Biophys. Sin. 36: 177-183.
3. Zhang, S., et al. 2004. Nuclear DNA helicase II (RNA helicase A) binds to an F-Actin containing shell that surrounds the nucleolus. Exp. Cell. Res. 293: 248-258.
4. Zhang, S., et al. 2004. DNA-dependent protein kinase (DNA-PK) phosphorylates nuclear DNA helicase II/RNA helicase A and hnRNP proteins in an RNA-dependent manner. Nucleic Acids Res. 32: 1-10.

CHROMOSOMAL LOCATION

Genetic locus: DHX9 (human) mapping to 1q25.3; Dhx9 (mouse) mapping to 1 G3.

SOURCE

NDH II (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of NDH II 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-46421 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-46421 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NDH II (N-12) is recommended for detection of nuclear DNA helicase II of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NDH II (N-12) is also recommended for detection of nuclear DNA helicase II in additional species, including porcine.

Suitable for use as control antibody for NDH II siRNA (h): sc-45706, NDH II siRNA (m): sc-45707, NDH II shRNA Plasmid (h): sc-45706-SH, NDH II shRNA Plasmid (m): sc-45707-SH, NDH II shRNA (h) Lentiviral Particles: sc-45706-V and NDH II shRNA (m) Lentiviral Particles: sc-45707-V.

NDH II (N-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NDH II: 130 kDa.

Positive Controls: HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.