

NDH II (B-9): sc-137232

BACKGROUND

Pre-mRNA splicing is a critical step in the posttranscriptional 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. Splicing factor 1 is a nuclear protein that binds the branch point sequence of pre-mRNA in the first step of spliceosome assembly and SRp55 modulates the selection of alternative splice sites in constitutive splicing. Nuclear DNA helicase II (NDH II), also known as RNA helicase A, 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.

CHROMOSOMAL LOCATION

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

SOURCE

NDH II (B-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of NDH II of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-137232 X, 200 µg/0.1 ml.

NDH II (B-9) is available conjugated to agarose (sc-137232 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137232 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137232 PE), fluorescein (sc-137232 FITC), Alexa Fluor® 488 (sc-137232 AF488), Alexa Fluor® 546 (sc-137232 AF546), Alexa Fluor® 594 (sc-137232 AF594) or Alexa Fluor® 647 (sc-137232 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137232 AF680) or Alexa Fluor® 790 (sc-137232 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

NDH II (B-9) is recommended for detection of nuclear DNA helicase II of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

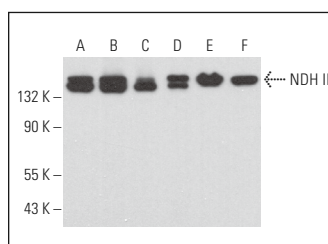
Suitable for use as control antibody for NDH II siRNA (h): sc-45706, NDH II siRNA (m): sc-45707, NDH II shRNA Plasmid (h): sc-45706-SH, NDH II shRNA Plasmid (m): sc-45707-SH, NDH II shRNA (h) Lentiviral Particles: sc-45706-V and NDH II shRNA (m) Lentiviral Particles: sc-45707-V.

NDH II (B-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

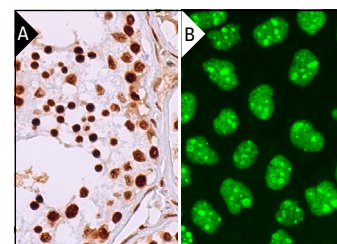
Molecular Weight of NDH II: 130 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Caco-2 cell lysate: sc-2262.

DATA



NDH II (B-9): sc-137232. Western blot analysis of NDH II expression in K-562 (A), Caco-2 (B), Jurkat (C), Hep G2 (D), 3T3-L1 (E) and C3H/10T1/2 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



NDH II (B-9): sc-137232. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and Leydig cells (A). Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear and nucleolar localization (B).

SELECT PRODUCT CITATIONS

- Jain, A., et al. 2013. DHX9 helicase is involved in preventing genomic instability induced by alternatively structured DNA in human cells. *Nucleic Acids Res.* 41: 10345-10357.
- Chellini, L., et al. 2022. The DNA/RNA helicase DHX9 contributes to the transcriptional program of the androgen receptor in prostate cancer. *J. Exp. Clin. Cancer Res.* 41: 178.
- Zhang, R., et al. 2023. Nuclear localization of STING1 competes with canonical signaling to activate AHR for commensal and intestinal homeostasis. *Immunity* 56: 2736-2754.e8.
- Yang, B.Z., et al. 2024. DHX9 SUMOylation is required for the suppression of R-loop-associated genome instability. *Nat. Commun.* 15: 6009.

RESEARCH USE

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