

# DDX3 (H-114): sc-98711

## BACKGROUND

DEAD box proteins, characterized by the conserved motif Asp-Glu-Ala-Asp, are putative RNA helicases implicated in several cellular processes involving modifications of RNA secondary structure and ribosome and spliceosome assembly. Based on their distribution patterns, some members of this family may be involved in embryogenesis, spermatogenesis, and cellular growth and division. DDX3 (DEAD box polypeptide 3) is involved in RNA metabolism. Two DDX3 paralogs are found in humans; DDX3X is encoded by a gene found on the X chromosome while DDX3Y is encoded by a gene on the Y chromosome. DDX3Y is exclusively expressed in testis and is required for normal spermatogenesis. DDX3X is ubiquitously expressed and predominantly localizes to the nuclear speckles, participating in RNA splicing, transcription, translation initiation, mRNA transport and cell cycle regulation. DDX3X also partakes in HIV-1 replication and hepatitis C viral infections.

## REFERENCES

1. Nekhai, S., et al. 2006. Transcriptional and post-transcriptional regulation of HIV-1 gene expression: role of cellular factors for Tat and Rev. *Future Microbiol.* 1: 417-426.
2. Chao, C.H., et al. 2006. DDX3, a DEAD box RNA helicase with tumor growth-suppressive property and transcriptional regulation activity of the p21<sup>WAF1/CIP1</sup> promoter, is a candidate tumor suppressor. *Cancer Res.* 66: 6579-6588.
3. Rosner, A., et al. 2007. The DDX3 subfamily of the DEAD box helicases: divergent roles as unveiled by studying different organisms and *in vitro* assays. *Curr. Med. Chem.* 14: 2517-2525.
4. Ariumi, Y., et al. 2007. DDX3 DEAD box RNA helicase is required for hepatitis C virus RNA replication. *J. Virol.* 81: 13922-13926.

## CHROMOSOMAL LOCATION

Genetic locus: DDX3X (human) mapping to Xp11.4, DDX3Y (human) mapping to Yq11.21; Ddx3x (mouse) mapping to X A1.1, Ddx3y (mouse) mapping to Y A1.

## SOURCE

DDX3 (H-114) is a rabbit polyclonal antibody raised against amino acids 1-114 mapping at the N-terminus of DDX3x 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

DDX3 (H-114) is recommended for detection of DDX3x and DDX3y of mouse, rat and 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), 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).

DDX3 (H-114) is also recommended for detection of DDX3x and DDX3y in additional species, including canine and porcine.

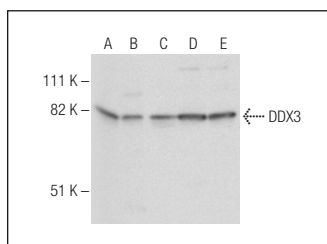
Molecular Weight of DDX3: 73 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or PC-12 cell lysate: sc-2250.

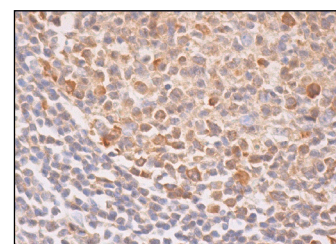
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



DDX3 (H-114): sc-98711. Western blot analysis of DDX3 expression in HeLa (A), NIH/3T3 (B), A-431 (C) and Jurkat (D) nuclear extracts and PC-12 whole cell lysate (E).



DDX3 (H-114): sc-98711. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear and cytoplasmic staining of squamous epithelial cells.

## RESEARCH USE

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

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Try **DDX3 (C-4): sc-365768** or **DDX3 (2253C5a): sc-81247**, our highly recommended monoclonal alternatives to DDX3 (H-114).