SANTA CRUZ BIOTECHNOLOGY, INC.

# BAT1/DDX39 (H-6): sc-271395

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

BAT1 (spliceosome RNA helicase BAT1), also known as DEAD-box protein UAP56 (56 kDa U2AF65-associated protein), HLA-B associated transcript-1 or ATP-dependent RNA helicase p47, is a member of the DECD subfamily of DEAD-box helicases. Important for mRNA splicing and nuclear export, BAT1 interacts with the mRNA export factor ALY and also functions as a splicing factor, mediating the first ATP-dependent step of spliceosome assembly. BAT1 associates with transcription elongation factor THO proteins, forming the TREX complex, and also interacts with splicing machinery to form the exon junction complex. Due to alternative splicing events, BAT1 exists in two isoforms. DDX39 (DEAD box protein 39), like BAT1, is a member of the DEAD-box family of helicases. Localized to the nucleus and expressed in lung, brain, kidney, splenn, thymus and salivary gland, DDX39 functions in a similar manner to BAT1 and is involved in pre-mRNA splicing and mRNA export out of the nucleus. DDX39 expression is upregulated in lung squamous cell carcinoma, suggesting a role for DDX39 in tumorigenesis.

## REFERENCES


1. Fleckner, J., et al. 1997. U2AF65 recruits a novel human DEAD box protein required for the U2 snRNP-branchpoint interaction. Genes Dev. 11: 1864-1872.
2. Luo, M.L., et al. 2001. Pre-mRNA splicing and mRNA export linked by direct interactions between UAP56 and Aly. Nature 413: 644-647.


## CHROMOSOMAL LOCATION

Genetic locus: DDX39B (human) mapping to 6p21.33, DDX39A (human) mapping to 19p13.12; Ddx39b (mouse) mapping to 17 B1, Ddx39 (mouse) mapping to 8 C2.

## SOURCE

BAT1/DDX39 (H-6) is a mouse monoclonal antibody raised against amino acids 231-428 mapping at the C-terminus of BAT1 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ 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-271395 X, 200 µg/0.1 ml.

BAT1/DDX39 (H-6) is available conjugated to agarose (sc-271395 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271395 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271395 PE), fluorescein (sc-271395 FITC), Alexa Fluor® 488 (sc-271395 AF488), Alexa Fluor® 546 (sc-271395 AF546), Alexa Fluor® 594 (sc-271395 AF594) or Alexa Fluor® 647 (sc-271395 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271395 AF680) or Alexa Fluor® 790 (sc-271395 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## STORAGE

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

## APPLICATIONS

BAT1/DDX39 (H-6) is recommended for detection of BAT1 and DDX39 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).

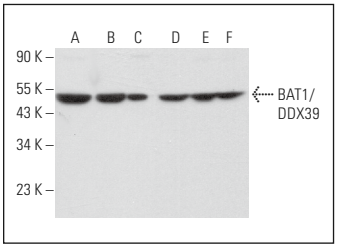
BAT1/DDX39 (H-6) is also recommended for detection of BAT1 and DDX39 in additional species, including equine, canine, bovine, porcine and avian.

BAT1/DDX39 (H-6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

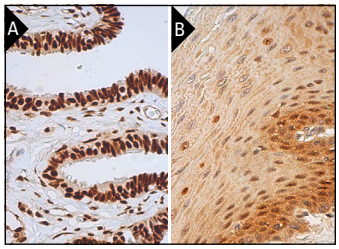
Molecular Weight of BAT1/DDX39: 48 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

## DATA




BAT1/DDX39 (H-6): sc-271395. Western blot analysis of BAT1/DDX39 expression in Hep G2 (**A**), F9 (**B**), EOC 20 (**C**), C6 (**D**), AT3B-1 (**E**) and PC-12 (**F**) whole cell lysates.




BAT1/DDX39 (H-6): sc-271395. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (**B**).

## SELECT PRODUCT CITATIONS


1. Stubbs, S.H. and Conrad, N.K. 2015. Depletion of REF/Aly alters gene expression and reduces RNA polymerase II occupancy. Nucleic Acids Res. 43: 504-519.
2. Szymura, S.J., et al. 2020. DDX39B interacts with the pattern recognition receptor pathway to inhibit NFκB and sensitize to alkylating chemotherapy. BMC Biol. 18: 32.
3. Saleem, I., et al. 2021. The mammalian ecdysoneless protein interacts with RNA helicase DDX39A to regulate nuclear mRNA export. Mol. Cell. Biol. 41: e0010321.
4. Duan, L., et al. 2022. Nuclear RNA binding regulates TDP-43 nuclear localization and passive nuclear export. Cell Rep. 40: 111106.
5. Ramabadran, R., et al. 2023. DNMT3A-coordinated splicing governs the stem state switch towards differentiation in embryonic and haematopoietic stem cells. Nat. Cell Biol. 25: 528-539.


## RESEARCH USE

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