



BAT1 (h2): 293T Lysate: sc-172041

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, spleen, 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

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2. Momose, F., et al. 2001. Cellular splicing factor RAF-2p48/NPI-5/BAT1/UAP56 interacts with the influenza virus nucleoprotein and enhances viral RNA synthesis. *J. Virol.* 75: 1899-1908.
3. Luo, M.L., et al. 2001. Pre-mRNA splicing and mRNA export linked by direct interactions between UAP56 and Aly. *Nature* 413: 644-647.
4. Price, P., et al. 2004. Polymorphisms at positions -22 and -348 in the promoter of the BAT1 gene affect transcription and the binding of nuclear factors. *Hum. Mol. Genet.* 13: 967-974.
5. Shi, H., et al. 2004. Crystal structure of the human ATP-dependent splicing and export factor UAP56. *Proc. Natl. Acad. Sci. USA* 101: 17628-17633.
6. Thakurta, A.G., et al. 2005. Homolog of BRCA2-interacting DSS1p and UAP56p link Mlo3p and Rae1p for mRNA export in fission yeast. *EMBO J.* 24: 2512-2523.
7. Kapadia, F., et al. 2006. Nuclear localization of poly(A)⁺ mRNA following siRNA reduction of expression of the mammalian RNA helicases UAP56 and URH49. *Gene* 384: 37-44.
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CHROMOSOMAL LOCATION

Genetic locus: BAT1 (human) mapping to 6p21.33.

PRODUCT

BAT1 (h2): 293T Lysate represents a lysate of human BAT1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

BAT1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive BAT1 antibodies. Recommended use: 10-20 µl per lane.

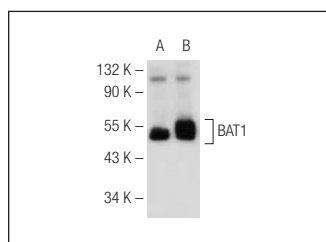
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

BAT1/DDX39 (H-198): sc-68342 is recommended as a positive control antibody for Western Blot analysis of enhanced human BAT1 expression in BAT1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



BAT1/DDX39 (H-198): sc-68342. Western blot analysis of BAT1 expression in non-transfected: sc-117752 (A) and human BAT1 transfected: sc-172041 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.