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# SLBP (h2): 293T Lysate: sc-170954

## BACKGROUND

Replication-dependent histone mRNAs lack polyadenylated tails and instead end in a conserved stem-loop. The stem-loop binding protein (SLBP) binds the 3' end of histone mRNA and contains a 73 amino acid RNA-binding domain. SLBP mediates the interaction of the histone pre-mRNA with U7 snRNP to facilitate 3' end processing. SLBP is required for the translation of stem-loop mRNAs. SLBP forms a stable complex with U7 snRNP in the nucleus as well as the cytoplasm. hZFP100 is a zinc finger protein that interacts with the SLBP/RNA complex but not with free SLBP. During the cell cycle, SLBP increases in the late G<sub>1</sub> and decreases in the S/G<sub>2</sub> border. The regulation of SLBP occurs at the level of translation. Specifically, two phosphorylation events on threonine 99 and threonine 104 trigger the degradation of SLBP in late S phase cells.

## REFERENCES

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5. Ling, J., Morley, S.J., Pain, V.M., Marzluff, W.F. and Gallie, D.R. 2002. The histone 3'-terminal stem-loop binding protein enhances translation through a functional and physical interaction with eukaryotic initiation factor 4G (eIF4G) and eIF3. *Mol. Cell. Biol.* 22: 7853-7867.
6. Dominski, Z., Erkmann, J.A., Yang, X., Sanchez, R. and Marzluff, W.F. 2002. A novel zinc finger protein is associated with U7 snRNP and interacts with the stem-loop binding protein in the histone pre-mRNP to stimulate 3'-end processing. *Genes Dev.* 16: 58-71.
7. Zheng, L., Dominski, Z., Yang, X.C., Elms, P., Raska, C.S., Borchers, C.H. and Marzluff, W.F. 2003. Phosphorylation of stem-loop binding protein (SLBP) on two threonines triggers degradation of SLBP, the sole cell cycle-regulated factor required for regulation of histone mRNA processing, at the end of S phase. *Mol. Cell. Biol.* 23: 1590-1601.

## CHROMOSOMAL LOCATION

Genetic locus: SLBP (human) mapping to 4p16.3.

## PRODUCT

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

## APPLICATIONS

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

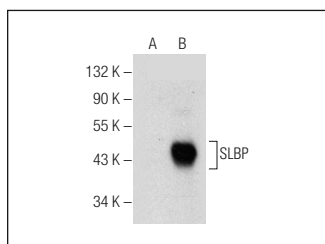
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SLBP (H-3): sc-376310 is recommended as a positive control antibody for Western Blot analysis of enhanced human SLBP expression in SLBP transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



SLBP (H-3): sc-376310. Western blot analysis of SLBP expression in non-transfected: sc-117752 (A) and human SLBP transfected: sc-170954 (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](http://www.scbt.com) for detailed protocols and support products.