SANTA CRUZ BIOTECHNOLOGY, INC.

SLBP (h2): 293 Lysate: sc-111862

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_1 and decreases in the S/G_2 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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3. Dominski, Z., Zheng, L.X., Sanchez, R. and Marzluff, W.F. 1999. Stem-loop binding protein facilitates 3'-end formation by stabilizing U7 SnRNP binding to histone pre-mRNA. Mol. Cell. Biol. 19: 3561-3570.
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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.
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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.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

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

PRODUCT

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

APPLICATIONS

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

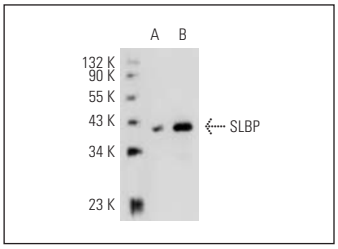
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-tranfected 293 cells.

SLBP (XX-3): sc-101140 is recommended as a positive control antibody for Western Blot analysis of enhanced human SLBP expression in SLBP transfected 293 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-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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



SLBP (XX-3): sc-101140. Western blot analysis of SLBP expression in non-transfected: sc-110760 (**A**) and human SLBP transfected: sc-111862 (**B**) 293 whole cell lysates.

RESEARCH USE

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