

SLBP (XX-3): sc-101140

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 G₁ and decreases in the S/G₂ 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

1. Wang, Z.F., et al. 1996. The protein that binds the 3' end of histone mRNA: a novel RNA-binding protein required for histone pre-mRNA processing. *Genes Dev.* 10: 3028-3040.
2. Martin, F., et al. 1997. The gene for histone RNA hairpin binding protein is located on human chromosome 4 and encodes a novel type of RNA binding protein. *EMBO J.* 16: 769-778.
3. Dominski, Z., et al. 1999. Stem-loop binding protein facilitates 3'-end formation by stabilizing U7 snRNP binding to histone pre-mRNA. *Mol. Cell Biol.* 19: 3561-3570.

CHROMOSOMAL LOCATION

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

SOURCE

SLBP (XX-3) is a mouse monoclonal antibody raised against recombinant SLBP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SLBP (XX-3) is recommended for detection of SLBP of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SLBP siRNA (h): sc-38321, SLBP shRNA Plasmid (h): sc-38321-SH and SLBP shRNA (h) Lentiviral Particles: sc-38321-V.

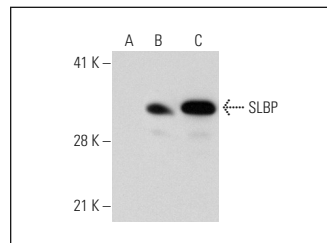
Molecular Weight of SLBP: 31 kDa.

Positive Controls: SLBP (h2): 293T Lysate: sc-170954, SLBP (h): 293 Lysate: sc-111844 or SLBP (m): 293T Lysate: sc-123576.

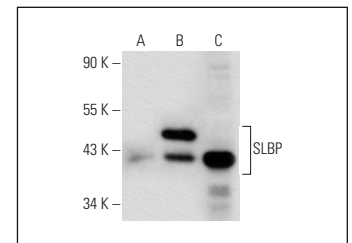
RECOMMENDED SUPPORT REAGENTS

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, 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

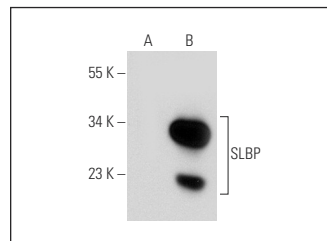
DATA



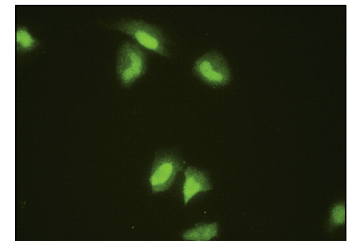
SLBP (XX-3): sc-101140. Western blot analysis of SLBP expression in non-transfected: sc-110760 (A) and human SLBP transfected: sc-111844 (B) 293 whole cell lysates and Jurkat nuclear extract (C).



SLBP (XX-3): sc-101140. Western blot analysis of SLBP expression in non-transfected: sc-117752 (A) and human SLBP transfected: sc-170954 (B) 293T whole cell lysates and Jurkat nuclear extract (C).



SLBP (XX-3): sc-101140. Western blot analysis of SLBP expression in non-transfected: sc-117752 (A) and mouse SLBP transfected: sc-123576 (B) 293T whole cell lysates.



SLBP (XX-3): sc-101140. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 for detailed protocols and support products.