

SLBP (N-18): sc-26521

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. The gene encoding human SLBP maps to chromosome 4p16.3. 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.
4. Whitfield, M.L., et al. 2000. Stem-loop binding protein, the protein that binds the 3' end of histone mRNA, is cell cycle regulated by both translational and posttranslational mechanisms. *Mol. Cell. Biol.* 20: 4188-4198.
5. Ling, J., et al. 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., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: SLBP (human) mapping to 4p16.3; Slbp (mouse) mapping to 5 B2.

SOURCE

SLBP (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SLBP of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26521 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SLBP (N-18) is recommended for detection of SLBP of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for SLBP siRNA (h): sc-38321, SLBP siRNA (m): sc-38322, SLBP shRNA Plasmid (h): sc-38321-SH, SLBP shRNA Plasmid (m): sc-38322-SH, SLBP shRNA (h) Lentiviral Particles: sc-38321-V and SLBP shRNA (m) Lentiviral Particles: sc-38322-V.

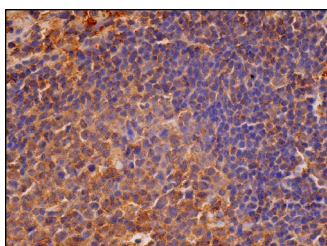
Molecular Weight of SLBP: 31 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or Jurkat nuclear extract: sc-2132.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SLBP (N-18): sc-26521. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers.

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 or our catalog for detailed protocols and support products.