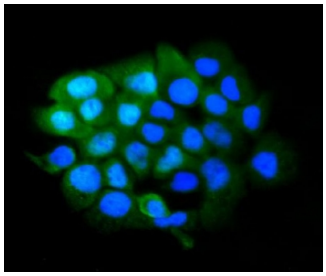
SLBP Antibody / Stem-Loop Binding Protein (RQ6071)

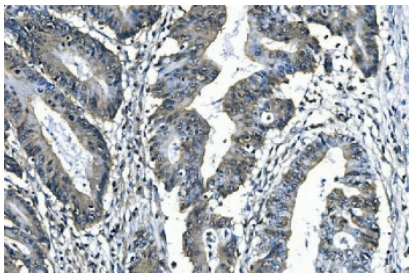
Catalog No.	Formulation	Size
RQ6071	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

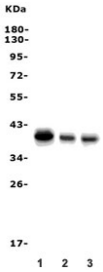
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q14493
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry : 1-2ug/ml Immunofluorescence : 2-4ug/ml Flow Cytometry : 1-3ug/million cells Direct ELISA : 0.1-0.5ug/ml
Limitations	This SLBP/Stem-Loop Binding Protein antibody is available for research use only.



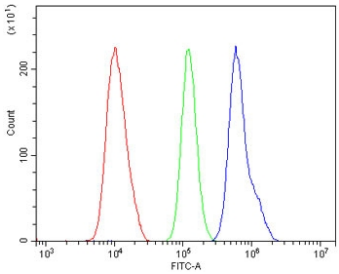
Immunofluorescence analysis of SLBP/Stem-Loop Binding Protein antibody in FFPE human A431 cells. SLBP antibody (green) demonstrates both nuclear and cytoplasmic staining, with nuclear signal overlapping DAPI (blue) and diffuse cytoplasmic distribution also observed. Heat-induced epitope retrieval was performed by steaming sections in pH6 citrate buffer for 20 min prior to staining.



IHC staining of FFPE human rectal cancer with SLBP/Stem-Loop Binding Protein antibody. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot testing of 1) human K562, 2) human Caco-2 and 3) mouse spleen lysate with SLBP/Stem-Loop Binding Protein antibody. Expected molecular weight: 31-43 kDa.



Flow cytometry testing of human U-87 MG cells with SLBP/Stem-Loop Binding Protein antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= SLBP antibody.

Description

SLBP antibody recognizes Stem-Loop Binding Protein, a specialized RNA-binding factor encoded by the human SLBP gene that plays a central role in histone mRNA metabolism. Stem-Loop Binding Protein, also commonly referred to as Histone Stem-Loop Binding Protein and Histone RNA Hairpin-Binding Protein in the literature, binds specifically to the conserved stem-loop structure present at the 3 prime end of replication-dependent histone mRNAs. Unlike most mRNAs, canonical histone transcripts lack polyA tails and instead rely on this stem-loop element for proper processing, nuclear export, translation, and regulated degradation. SLBP antibody is therefore widely used to study cell cycle-dependent histone gene expression and DNA replication-associated chromatin assembly.

Stem-Loop Binding Protein is predominantly localized to the nucleus during S phase, where it associates with histone gene loci and processing factors, but it can also be detected in the cytoplasm where it supports translation of histone mRNAs. Its expression is tightly cell cycle regulated, with protein levels rising sharply at the G1-S transition and declining rapidly at the end of S phase through ubiquitin-mediated proteasomal degradation. This precise regulation ensures that histone synthesis is coordinated with DNA replication to maintain genomic stability. SLBP antibody is useful for investigating proliferation status, replication dynamics, and chromatin assembly mechanisms in both normal and malignant tissues.

Functionally, Stem-Loop Binding Protein interacts with multiple components of the histone pre-mRNA processing machinery, including U7 small nuclear ribonucleoprotein and cleavage factors that generate the unique 3 prime end of histone transcripts. It also facilitates nuclear export and enhances translation efficiency in the cytoplasm by recruiting translation-associated factors. Dysregulation of SLBP expression has been linked to aberrant histone mRNA processing, genomic instability, and tumorigenesis. Increased SLBP levels are often associated with highly proliferative cells, making SLBP antibody a valuable reagent in studies of cancer biology, cell cycle control, and DNA damage response pathways.

Because Stem-Loop Binding Protein is essential for proper chromatin assembly during S phase, it is frequently examined alongside markers of proliferation such as MCM proteins and PCNA. SLBP antibody enables detection of nuclear and

cytoplasmic expression patterns in formalin-fixed, paraffin-embedded tissues and cultured cells, supporting research into cell cycle progression, replication stress, and epigenetic regulation.

Application Notes

Optimal dilution of the SLBP/Stem-Loop Binding Protein antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids K146-S270) was used as the immunogen for the SLBP/Stem-Loop Binding Protein antibody.

Storage

After reconstitution, the SLBP/Stem-Loop Binding Protein antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.