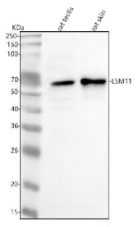
LSM11 Antibody / U7 snRNA-associated Sm-like protein LSm11 (FY13034)

Catalog No.	Formulation	Size
FY13034	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P83369
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This LSM11 antibody is available for research use only.



Western blot analysis of LSM11 using anti-LSM11 antibody. Lane 1: rat testis tissue lysates, Lane 2: rat skin tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-LSM11 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A distinct band is observed at approximately 68 kDa, higher than the predicted molecular weight of 40 kDa. This upward shift is consistent with reports that LSM11 forms detergent-resistant complexes with FLASH and LSM10 and can undergo phosphorylation-dependent mobility shifts. The ~68 kDa band likely represents the complexed or post-translationally modified form of LSM11 detected under standard denaturing conditions.

Description

LSM11 antibody detects U7 small nuclear RNA-associated Sm-like protein LSM11, a nuclear RNA-binding protein

essential for histone pre-mRNA processing. The UniProt recommended name is U7 small nuclear RNA-associated Sm-like protein LSM11 (LSM11). This protein functions as part of a specialized LSM complex that recognizes U7 snRNA, forming the U7 small nuclear ribonucleoprotein (snRNP) complex involved in 3'-end processing of replication-dependent histone transcripts.

Functionally, LSM11 antibody identifies a 383-amino-acid nuclear protein that partners with LSM10 and other U7 snRNP components to direct histone mRNA 3'-end cleavage. Unlike polyadenylated transcripts, replication-dependent histone mRNAs end in a conserved stem-loop followed by a purine-rich histone downstream element (HDE). The LSM11-containing U7 snRNP recognizes this sequence and recruits the histone cleavage complex to generate mature histone mRNA. This process ensures tight coupling of histone production to DNA replication during S phase.

The LSM11 gene is located on chromosome 5q35.3 and encodes a nuclear-localized protein expressed in proliferating cells, where histone synthesis is active. LSM11 contains Sm motifs that mediate RNA binding and protein-protein interactions essential for snRNP assembly. It directly interacts with FLASH (FLICE-associated huge protein) and the histone cleavage complex subunits to coordinate endonucleolytic processing of histone pre-mRNAs.

Beyond its canonical role in histone RNA processing, LSM11 contributes to transcriptional regulation and genome stability. It has been implicated in the activation of p53-dependent apoptosis under replication stress conditions through the U7 snRNP-FLASH pathway. By modulating histone synthesis, LSM11 indirectly affects chromatin assembly and DNA packaging during cell division. Perturbation of LSM11 expression leads to cell cycle arrest, defective chromatin condensation, and genomic instability.

LSM11 antibody is widely used in molecular biology, RNA processing, and cell cycle research. It is suitable for immunoblotting, immunofluorescence, and RNA-protein interaction studies to examine LSM11 localization and function. This antibody supports research into histone mRNA metabolism, snRNP assembly, and nuclear RNA processing mechanisms. In cancer and developmental studies, LSM11 detection aids in investigating how histone synthesis regulation impacts proliferation and differentiation.

Structurally, LSM11 shares the characteristic Sm-fold found in RNA-binding LSM proteins, forming ring-like complexes that interact with U7 snRNA. Its N-terminal region is important for FLASH recruitment, while the C-terminal domain stabilizes the U7 snRNP. NSJ Bioreagents provides LSM11 antibody reagents validated for use in RNA processing, histone biosynthesis, and nuclear complex research.

Application Notes

Optimal dilution of the LSM11 antibody should be determined by the researcher.

Immunogen

E.coli-derived human LSM11 recombinant protein (Position: A17-Q360) was used as the immunogen for the LSM11 antibody.

Storage

After reconstitution, the LSM11 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.