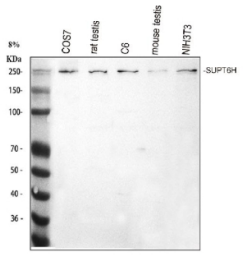
SPT6 Antibody / SUPT6H / Transcription elongation factor SPT6 (FY13391)

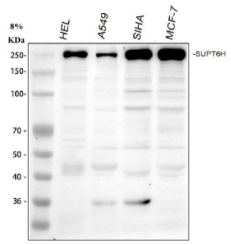
Catalog No.	Formulation	Size
FY13391	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

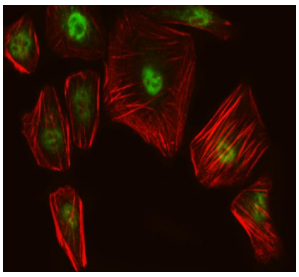
Availability	1-2 days
Species Reactivity	Human, Monkey, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q7KZ85
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SPT6 antibody is available for research use only.



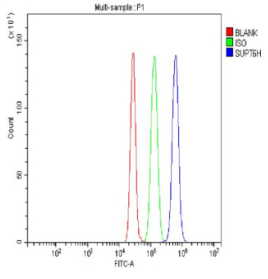
Western blot analysis of SUPT6H using anti-SPT6 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: monkey COS-7 whole cell lysates, Lane 2: rat testis tissue lysates, Lane 3: rat C6 whole cell lysates, Lane 4: mouse testis tissue lysates, Lane 5: mouse NIH/3T3 whole cell 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-SUPT6H 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 is developed using an ECL Plus Western Blotting Substratewith Tanon 5200 system. A strong band was detected at approximately 250 kDa, which is higher than the predicted 199 kDa and consistent with the known slow-migrating behavior of SUPT6H caused by its acidic, low-complexity domains and extensive phosphorylation.



Western blot analysis of SUPT6H using anti-SPT6 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human SiHa whole cell lysates, Lane 4: human MCF-7 whole cell 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-SUPT6H 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 is developed using an ECL Plus Western Blotting Substratewith Tanon 5200 system. A strong band was detected at approximately 250 kDa, which is higher than the predicted 199 kDa and consistent with the known slow-migrating behavior of SUPT6H caused by its acidic, low-complexity domains and extensive phosphorylation.



Immunofluorescent staining of SUPT6H using anti-SPT6 antibody (green). SUPT6H was detected in an immunocytochemical section of human TPC1 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-SUPT6H antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37oC. The tissue section was developed using Phalloidin-iFluor 594 conjugate (red). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Flow Cytometry analysis of human SiHa cells using anti-SPT6 antibody. Overlay histogram showing SiHa cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SUPT6H antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

SPT6 antibody detects Transcription elongation factor SPT6, encoded by the SUPT6H gene located on chromosome 17q11.2. SPT6 is a conserved histone chaperone and transcription elongation factor that couples RNA polymerase II (Pol II) activity to chromatin reassembly. It plays essential roles in transcription elongation, mRNA processing, and maintenance of chromatin integrity during gene expression. SPT6 is expressed in most cell types, with high levels in

proliferating tissues and the central nervous system, where active transcription and chromatin remodeling are continuous.

Structurally, SPT6 is a large nuclear protein (~170 kDa) containing tandem SH2 domains at the C-terminus that mediate direct binding to the phosphorylated C-terminal domain of RNA Pol II. The protein also includes acidic and basic regions that interact with nucleosomes, histones H3/H4, and elongation factors. SPT6 belongs to the transcription elongation factor family conserved across eukaryotes and forms complexes with other regulators such as IWS1, PAF1C, and FACT to coordinate chromatin structure with RNA synthesis.

Functionally, SPT6 promotes nucleosome reassembly behind the elongating RNA polymerase and prevents cryptic transcription initiation within coding regions. It also regulates histone modifications, such as H3K36 methylation, by recruiting SETD2 and other histone modifiers during elongation. In addition, SPT6 influences mRNA splicing and 3'-end processing by stabilizing Pol II on gene bodies. Through its dual role as a histone chaperone and elongation factor, SPT6 ensures faithful transcriptional output and epigenetic stability.

Loss or dysregulation of SPT6 disrupts transcription elongation and chromatin organization, leading to genomic instability and aberrant gene expression. Mutations have been associated with developmental defects, cancer, and neurodegenerative disorders. SPT6 also participates in transcription-coupled DNA repair and chromatin restoration after stress. Pathway associations include RNA polymerase II transcription, chromatin remodeling, and epigenetic regulation. During development, SPT6 expression supports neuronal differentiation and transcriptional fidelity in proliferating cells.

The SPT6 antibody from NSJ Bioreagents is an excellent reagent for research into transcription regulation, chromatin maintenance, and epigenetic control.

Application Notes

Optimal dilution of the SPT6 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Spt6/SUPT6H recombinant protein (Position: A564-Q1639) was used as the immunogen for the SPT6 antibody.

Storage

After reconstitution, the SPT6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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