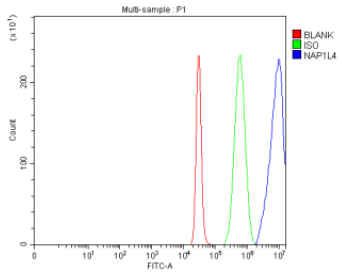
NAP1L4 Antibody / Nucleosome assembly protein 1-like 4 (FY13033)

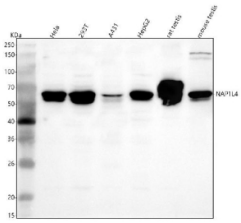
Catalog No.	Formulation	Size
FY13033	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, 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	Q99733
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NAP1L4 antibody is available for research use only.



Flow Cytometry analysis of 293T cells using anti-NAP1L4 antibody. Overlay histogram showing 293T 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-NAP1L4 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 (Red line) was also used as a control.



Western blot analysis of NAP1L4 using anti-NAP1L4 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human HepG2 whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis 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-NAP1L4 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 major doublet is detected at approximately 65 kDa, higher than the predicted 43 kDa molecular weight. This slower migration is characteristic of NAP1 family histone chaperones and reflects acidic domain composition and post-translational modifications, including phosphorylation and acetylation, which generate distinct electrophoretic species of NAP1L4 on SDS-PAGE.

Description

NAP1L4 antibody detects Nucleosome assembly protein 1-like 4, a histone chaperone involved in nucleosome assembly, chromatin remodeling, and transcriptional regulation. The UniProt recommended name is Nucleosome assembly protein 1-like 4 (NAP1L4). This protein belongs to the NAP1 family, which mediates histone transport and deposition during DNA replication and repair.

Functionally, NAP1L4 antibody identifies a 391-amino-acid nuclear and cytoplasmic protein that facilitates the assembly of histone H2A-H2B dimers into nucleosomes. NAP1L4 acts as a molecular chaperone that prevents non-specific aggregation of histones, ensuring their proper deposition onto DNA. It also participates in transcriptional activation by assisting chromatin remodeling complexes in regulating nucleosome dynamics near promoters and enhancers.

The NAP1L4 gene is located on chromosome 11p15.4 and encodes a ubiquitously expressed protein found in dividing and differentiating cells. NAP1L4 associates with cell cycle regulators and transcription factors to coordinate chromatin accessibility and gene expression. Its function is particularly important during embryogenesis, where rapid chromatin remodeling supports differentiation and proliferation. In somatic cells, NAP1L4 contributes to DNA damage response and maintenance of chromatin integrity.

Beyond histone assembly, NAP1L4 interacts with key signaling molecules and nuclear export proteins, linking chromatin organization to gene regulatory networks. Dysregulation of NAP1L4 expression has been observed in several cancers and developmental disorders, where altered nucleosome assembly can lead to epigenetic instability and aberrant transcription. Reduced NAP1L4 function has been associated with growth defects and impaired cell cycle progression in experimental models.

NAP1L4 antibody is widely used in chromatin biology, transcriptional regulation, and cancer research. It is suitable for immunoblotting, immunoprecipitation, and immunofluorescence to detect NAP1L4 localization and expression. This antibody supports studies of histone dynamics, chromatin assembly, and gene regulation. In developmental research, it aids in exploring chromatin organization during early embryonic differentiation.

Structurally, NAP1L4 contains acidic regions that bind histones electrostatically and domains that facilitate dimerization and complex formation. Its activity is regulated by phosphorylation and nuclear-cytoplasmic transport. NSJ Bioreagents provides NAP1L4 antibody reagents validated for use in chromatin remodeling, transcriptional control, and epigenetic regulation research.

Application Notes

Optimal dilution of the NAP1L4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NAP1L4 recombinant protein (Position: M1-A331) was used as the immunogen for the NAP1L4 antibody.

Storage

After reconstitution, the NAP1L4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.