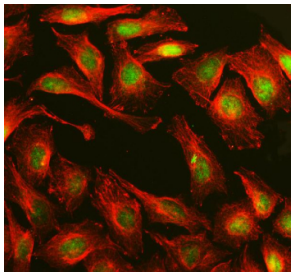
MPLKIP Antibody / M phase specific PLK1 interacting protein (FY12330)

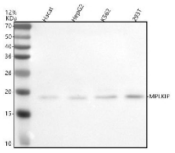
Catalog No.	Formulation	Size
FY12330	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	Q8TAP9
Localization	Nuclear, cytoplasmic
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This MPLKIP antibody is available for research use only.



Immunofluorescent staining of MPLKIP using anti-MPLKIP antibody (green) and anti-Beta Tubulin antibody (red). MPLKIP was detected in an immunocytochemical section of U2OS 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-MPLKIP antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of MPLKIP using anti-MPLKIP antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hacat whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: human 293T 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-MPLKIP 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 an ECL Plus Western Blotting Substrate. The expected molecular weight of MPLKIP is ~19 kDa.

Description

MPLKIP antibody is used to study M phase specific PLK1 interacting protein, a small nuclear protein that binds the mitotic kinase PLK1 and helps coordinate chromosome dynamics and cell cycle progression. By engaging Polo like kinase 1 during M phase, the protein contributes to proper spindle function and timely transition through mitosis, thereby preserving genome integrity. Beyond cell division, M phase specific PLK1 interacting protein participates in gene regulatory programs and has been linked to transcription-coupled processes that safeguard cell identity and stress adaptation.

The protein localizes to the nucleus and perinuclear regions, where it interfaces with chromatin and cell cycle machinery. Loss of function mutations in the MPLKIP gene, historically known as TTDN1, cause trichothiodystrophy non photosensitive type 1, a disorder characterized by brittle hair and developmental features, underscoring its role in nuclear homeostasis. Experimental systems suggest that M phase specific PLK1 interacting protein acts as a scaffold that positions kinases and effectors to ensure accurate phosphorylation timing, with downstream consequences for cohesion, condensation, and checkpoint signaling.

In the laboratory, researchers use MPLKIP antibody for immunoblotting to monitor expression across the cell cycle, for immunofluorescence to visualize nuclear patterns in interphase and mitosis, and for co-immunoprecipitation to examine complexes with PLK1 and associated regulators. When paired with synchronization, kinase inhibitors, or auxin-degron depletion, the antibody supports dissection of cause-and-effect relationships between protein abundance, phosphorylation events, and mitotic fidelity. In disease models, MPLKIP antibody enables evaluation of variant impact on stability and localization, clarifying genotype-phenotype mechanisms relevant to neurodevelopment and ectodermal biology.

The MPLKIP antibody from NSJ Bioreagents is optimized for consistent detection in common cell lines and primary cells, integrating with workflows that combine imaging, phospho-proteomics, and transcriptomics. By anchoring measurements of a PLK1-interacting scaffold, teams can connect mitotic control to transcriptional resets that follow cell division, and they can probe how nuclear organization influences tissue development and stress resilience.

Application Notes

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

Immunogen

E.coli-derived human MPLKIP recombinant protein (Position: E135-C179) was used as the immunogen for the MPLKIP antibody.

Storage

After reconstitution, the MPLKIP 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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