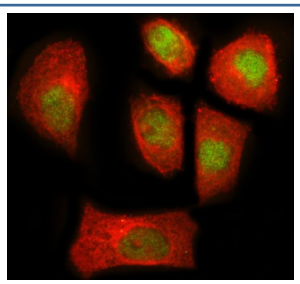
NEK7 Antibody / NIMA related kinase 7 (FY12050)

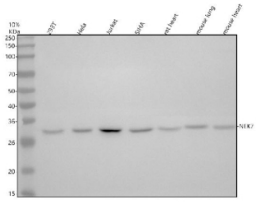
Catalog No.	Formulation	Size
FY12050	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

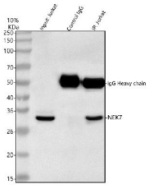
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8TDX7
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Immunoprecipitation : 2-4ug/500ug of lysate Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NEK7 antibody is available for research use only.



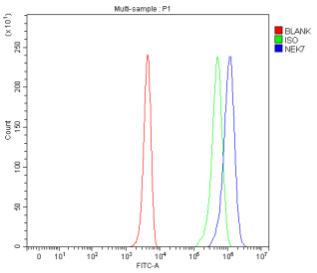
Immunofluorescent staining of NEK7 using anti-NEK7 antibody (green) and anti-Beta Tubulin antibody (red). NEK7 was detected in an immunocytochemical section of SiHa cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-NEK7 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 NEK7 using anti-NEK7 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human 293T whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human Jurkat whole cell lysates, Lane 4: human SIHA whole cell lysates, Lane 5: rat heart tissue lysates, Lane 6: mouse lung tissue lysates, Lane 7: mouse heart 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-NEK7 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. A specific band was detected for NEK7 at approximately 32 kDa.



Immunoprecipitating NEK7 in Jurkat whole cell lysate. Western blot analysis of NEK7 using anti-NEK7 antibody. Lane 1: Jurkat whole cell lysates (30ug), Lane 2: Rabbit control IgG instead of anti-NEK7 antibody in Jurkat whole cell lysate, Lane 3: anti-NEK7 antibody (2ug) + Jurkat whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-NEK7 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. A specific band was detected for NEK7 at approximately 32 kDa. The expected band size for NEK7 is at 35 kDa.



Flow Cytometry analysis of 293T cells using anti-NEK7 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-NEK7 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

NEK7 antibody detects NIMA related kinase 7, encoded by the NEK7 gene. NIMA related kinase 7 is a serine/threonine protein kinase belonging to the NIMA related kinase family, which plays important roles in mitotic progression, spindle assembly, and cytokinesis. NEK7 antibody provides researchers with a specific reagent for studying cell cycle regulation, mitotic control, and disease processes associated with abnormal kinase activity.

NIMA related kinase 7 is expressed in proliferating tissues and localizes to the centrosome during mitosis. Research using NEK7 antibody has shown that it regulates microtubule organization, spindle formation, and chromosome segregation. By phosphorylating structural and regulatory proteins, NEK7 ensures orderly mitotic progression and completion of cytokinesis.

Studies with NEK7 antibody have also revealed a role in inflammasome activation. NEK7 interacts with NLRP3 and is essential for assembly of the NLRP3 inflammasome, which mediates caspase-1 activation and interleukin-1 beta processing. This discovery links NEK7 to innate immunity and inflammation, broadening its functional scope beyond mitosis.

Dysregulation of NEK7 has been implicated in cancer and inflammatory disease. Research using NEK7 antibody has shown that overexpression promotes proliferation and survival in certain cancers, while loss-of-function impairs mitotic

fidelity and contributes to chromosomal instability. In immune contexts, defective NEK7 regulation disrupts inflammasome activity, contributing to autoinflammatory syndromes.

NEK7 antibody is commonly used in western blotting, immunohistochemistry, and immunofluorescence. Western blotting quantifies kinase levels in proliferative tissues, immunohistochemistry highlights centrosomal and tumor expression, and immunofluorescence reveals dynamic localization during mitosis. These applications make NEK7 antibody indispensable for cell cycle and inflammation research.

By providing validated NEK7 antibody reagents, NSJ Bioreagents supports studies into mitosis, innate immunity, and cancer biology. Detection of NIMA related kinase 7 provides researchers with insight into how kinases regulate both cell division and immune signaling.

Application Notes

Optimal dilution of the NEK7 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NEK7 recombinant protein (Position: M1-S302) was used as the immunogen for the NEK7 antibody.

Storage

After reconstitution, the NEK7 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.