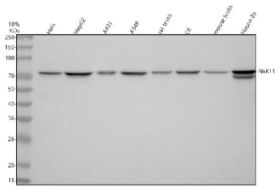
NEK11 Antibody / Serine/threonine-protein kinase Nek11 (FY13213)

Catalog No.	Formulation	Size
FY13213	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	Q8NG66
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This NEK11 antibody is available for research use only.



Western blot analysis of NEK11 using anti-NEK11 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: rat C6 whole cell lysates, Lane 7: mouse testis tissue lysates, Lane 8: mouse Neuro-2a 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-NEK11 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. Western blot detection of NEK11 shows the expected ~74 kDa band across cell lines. In mouse Neuro-2a cells, a doublet is observed, likely reflecting isoform-specific or phosphorylation-dependent forms of NEK11 associated with neuronal signaling activity.

Description

NEK11 antibody detects Serine/threonine-protein kinase Nek11, a member of the NIMA-related kinase family that regulates DNA damage checkpoints and cell cycle progression. The UniProt recommended name is Serine/threonine-protein kinase Nek11 (NEK11). This kinase functions downstream of ATM/ATR signaling pathways and mediates G2/M

checkpoint arrest following genotoxic stress to allow DNA repair before mitosis.

Functionally, NEK11 antibody identifies a 645-amino-acid nuclear and cytoplasmic protein that becomes activated through phosphorylation in response to DNA damage. NEK11 phosphorylates and promotes the degradation of CDC25A phosphatase, inhibiting activation of CDK1-cyclin B and preventing premature entry into mitosis. By coupling checkpoint signaling to cell cycle control, NEK11 preserves genomic stability during replication stress and DNA repair. It also interacts with other checkpoint kinases such as CHK1 and PLK1, forming a regulatory network that ensures proper mitotic timing.

The NEK11 gene is located on chromosome 3q22.1 and is expressed in proliferative tissues including testis, thymus, and intestinal epithelium. Expression levels are highest in S and G2 phases, consistent with its role in cell cycle regulation. NEK11 activity integrates stress signals with checkpoint arrest and recovery mechanisms.

Pathologically, loss or mutation of NEK11 leads to genomic instability, defective DNA repair, and tumorigenesis. Downregulation is observed in colorectal, liver, and lung cancers, where impaired checkpoint function contributes to uncontrolled proliferation. Conversely, elevated NEK11 expression may sensitize tumor cells to genotoxic therapy by prolonging checkpoint arrest. Research using NEK11 antibody supports studies in DNA damage response, checkpoint regulation, and cancer biology.

NEK11 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect checkpoint kinases. NSJ Bioreagents provides NEK11 antibody reagents optimized for studies in genome integrity, DNA repair, and cell cycle control.

Structurally, Serine/threonine-protein kinase Nek11 contains an N-terminal catalytic kinase domain with a conserved lysine essential for ATP binding and a C-terminal regulatory region mediating protein-protein interactions. Its activation loop undergoes autophosphorylation to enhance catalytic activity following DNA damage. This antibody enables analysis of NEK11's role in coordinating checkpoint signaling and maintaining genomic stability.

Application Notes

Optimal dilution of the NEK11 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NEK11 recombinant protein (Position: E72-Q630) was used as the immunogen for the NEK11 antibody.

Storage

After reconstitution, the NEK11 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.