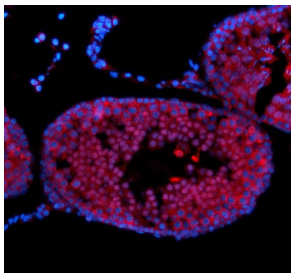
NUP50 Antibody / Nucleoporin 50 Antibody (FY12436)

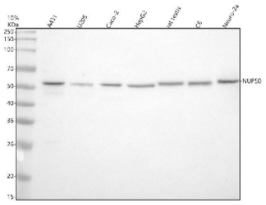
Catalog No.	Formulation	Size
FY12436	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

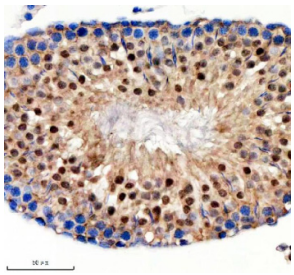
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9UKX7
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml
Limitations	This NUP50 Antibody / Nucleoporin 50 Antibody is available for research use only.



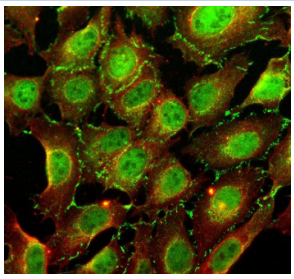
NUP50 Antibody by IF in Rat Testis Tissue. Immunofluorescence staining of FFPE rat testis tissue using rabbit polyclonal NUP50 antibody at 5 ug/ml. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by blocking with 10% goat serum and overnight primary antibody incubation at 4oC. Cy3-conjugated goat anti-rabbit IgG was applied at 1:500 for 30 minutes at 37oC, and nuclei were counterstained with DAPI. Red fluorescence demonstrates Nucleoporin 50 immunoreactivity throughout the seminiferous tubule, with prominent nuclear-associated staining in numerous germ cells. DAPI-stained nuclei appear blue.



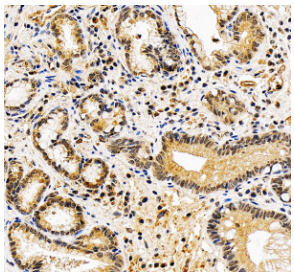
NUP50 Antibody by WB in Human and Rodent Cell and Tissue Lysates. Western blot analysis of human whole-cell lysate (lane 1), human U2OS cells (lane 2), human Caco-2 cells (lane 3), human HepG2 cells (lane 4), rat testis tissue (lane 5), rat C6 cells (lane 6), and mouse Neuro-2a cells (lane 7) using rabbit polyclonal NUP50 antibody at 0.5 ug/ml. Samples were separated by 10% SDS-PAGE and transferred to a nitrocellulose membrane. Following overnight primary antibody incubation at 4oC, detection was performed using HRP-conjugated goat anti-rabbit IgG at 1:5000 and chemiluminescence. Immunoreactive bands are detected at approximately 50 kDa across all seven samples, consistent with the expected molecular weight of Nucleoporin 50. Weaker additional bands are visible in several lanes.



NUP50 Antibody by IHC in Rat Testis Tissue. Immunohistochemistry staining of FFPE rat testis tissue using rabbit polyclonal NUP50 antibody at 2 ug/ml. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by blocking with 10% goat serum and overnight primary antibody incubation at 4oC. Peroxidase-conjugated goat anti-rabbit IgG was applied for 30 minutes at 37oC, and staining was developed using DAB substrate. Brown immunoreactivity is observed in numerous cells of the seminiferous tubule, including prominent nuclear staining in developing germ cells. Hematoxylin-counterstained nuclei appear blue.



NUP50 Antibody by IF in Human U2OS Cells. Immunofluorescence staining of human U2OS cells using rabbit polyclonal NUP50 antibody at 5 ug/ml together with a mouse anti-beta-tubulin antibody. Enzymatic antigen retrieval was performed for 15 minutes, followed by blocking with 10% goat serum and overnight primary antibody incubation at 4oC. DyLight 488-conjugated goat anti-rabbit IgG and Cy3-conjugated goat anti-mouse IgG were applied at 1:500 for 30 minutes at 37oC. Green fluorescence demonstrates Nucleoporin 50 immunoreactivity, with prominent nuclear and perinuclear staining. Red fluorescence identifies beta-tubulin within the cytoskeletal network.



NUP50 Antibody by IHC in Human Stomach Cancer Tissue. Immunohistochemistry staining of FFPE human stomach cancer tissue using rabbit polyclonal NUP50 antibody at 2 ug/ml. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by blocking with 10% goat serum and overnight primary antibody incubation at 4oC. Brown immunoreactivity is observed in malignant glandular epithelial cells, with staining involving nuclear and cytoplasmic compartments. The surrounding stromal tissue exhibits comparatively weaker staining.

Description

NUP50 Antibody recognizes nucleoporin 50, a nuclear transport protein encoded by the NUP50 gene. Also known as Nuclear Pore Complex Protein Nup50 and NPAP60, this protein is a dynamic component of the nuclear pore complex (NPC), a large multiprotein structure embedded within the nuclear envelope. Nuclear pore complexes regulate the movement of proteins, RNA molecules, and ribonucleoprotein particles between the nucleus and cytoplasm. NUP50 participates in this transport system by facilitating nuclear protein import and regulating interactions between transport receptors and their cargo.

The nuclear pore complex consists of multiple nucleoporins organized into structural and functional subcomplexes. Some nucleoporins form the central scaffold, while others establish selective transport pathways or interact with soluble nuclear transport factors. Nucleoporin 50 associates with the nuclear basket region of the NPC and is also distributed within the nucleoplasm. Unlike relatively stable structural nucleoporins, NUP50 exhibits dynamic interactions with nuclear transport machinery, allowing it to participate directly in the regulation of cargo delivery.

One of the best-characterized functions of NUP50 involves the importin-alpha-dependent nuclear import pathway.

Proteins containing classical nuclear localization signals are recognized by importin-alpha and transported into the nucleus through interactions with importin-beta. Following nuclear entry, NUP50 binds importin-alpha and promotes the release of imported cargo. This activity facilitates the completion of nuclear import and contributes to the recycling of transport receptors for subsequent rounds of protein trafficking.

NUP50 also interacts with other components of the nuclear pore complex, including NUP153, which is associated with the nuclear basket. These interactions help coordinate nuclear transport events at the nucleoplasmic side of the pore. Because nuclear import controls the intracellular distribution of transcription factors, signaling proteins, and other regulatory molecules, NUP50 contributes indirectly to processes requiring accurate nuclear protein localization.

Beyond its established role in nuclear import, Nucleoporin 50 has been investigated for possible connections to chromatin organization and gene regulation. Its nuclear distribution and interactions with transport-associated proteins suggest that NUP50 may help coordinate nucleocytoplasmic trafficking with broader nuclear activities. However, these additional regulatory functions remain less extensively characterized than its role in importin-alpha-mediated cargo release.

Research involving NUP50 is relevant to understanding nuclear pore organization, transport receptor recycling, and the regulation of nuclear protein accumulation. An NUP50 Antibody from NSJ Bioreagents supports investigations of Nucleoporin 50 expression, nuclear transport mechanisms, and nuclear pore complex biology in human, mouse, and rat samples.

For additional antibodies targeting proteins involved in nuclear organization, nucleocytoplasmic transport, and intracellular trafficking, explore our Cell Biology Antibodies collection.

Application Notes

Optimal dilution of the NUP50 Antibody / Nucleoporin 50 Antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human NUP50 was used as the immunogen for the NUP50 antibody.

Storage

After reconstitution, the NUP50 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Nucleoporin 50 antibody, Nuclear Pore Complex Protein Nup50 antibody, Nucleoporin 50 kDa antibody, Nuclear Pore Protein Nup50 antibody, NPAP60 antibody, Nucleoporin 50 Protein antibody

Copyright © NSJ Bioreagents. All rights reserved.