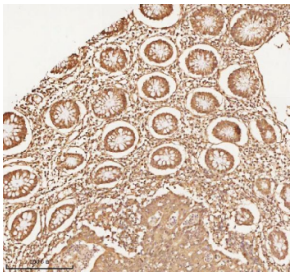
NUP43 Antibody / Nucleoporin 43 (FY12252)

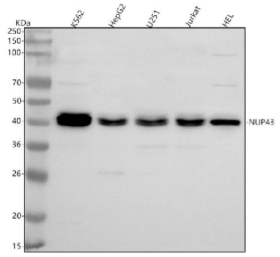
Catalog No.	Formulation	Size
FY12252	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

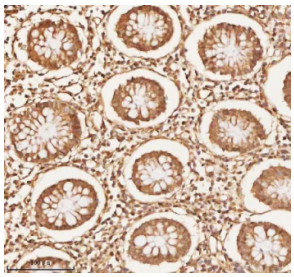
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8NFH3
Localization	Nucleus
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This NUP43 antibody is available for research use only.



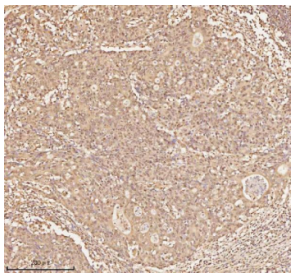
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of human colon tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



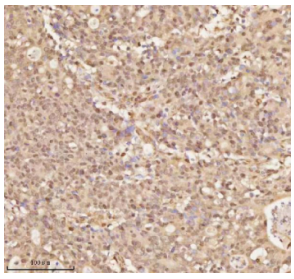
Western blot analysis of NUP43 using anti-NUP43 antibody. Lane 1: human K562 whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human U251 whole cell lysates, Lane 4: human Jurkat whole cell lysates, Lane 5: human HEL whole cell lysates. After electrophoresis, proteins were transferred 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-NUP43 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 specific band was detected for NUP43 at approximately 42 kDa. The expected band size for NUP43 is at 42 kDa.



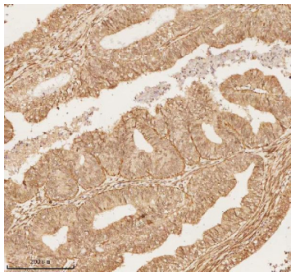
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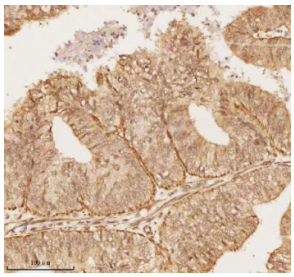
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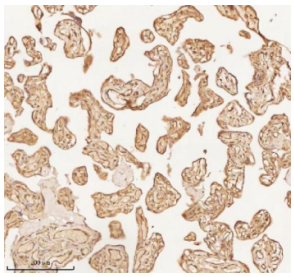
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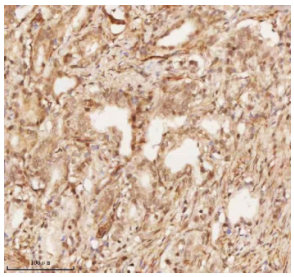
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of human endometrioid adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



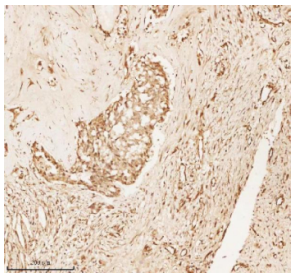
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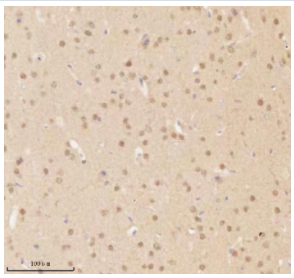
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of human placenta tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



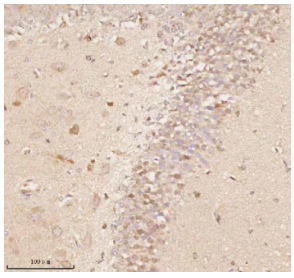
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of human prostate adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



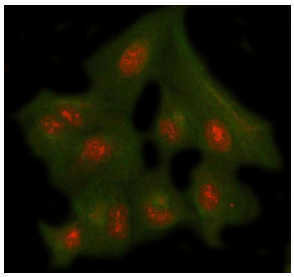
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of human lung adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



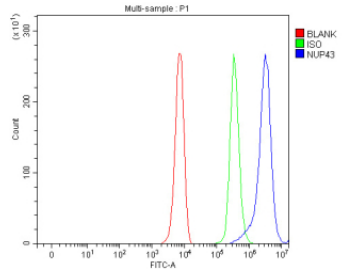
Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunohistochemical staining of NUP43 using anti-NUP43 antibody. NUP43 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-NUP43 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunofluorescent staining of FFPE human A549 cells with NUP43 antibody (red) and Beta Tubulin mAb (green). HIER: steam section in pH6 citrate buffer for 20 min.



Flow cytometry analysis of fixed and permeabilized human K562 cells with NUP43 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= NUP43 antibody.

Description

NUP43 antibody detects Nuclear pore complex protein Nup43, encoded by the NUP43 gene on chromosome 6p21.33. NUP43 antibody is widely used in studies of nucleocytoplasmic transport, nuclear pore structure, and gene regulation. NUP43 is one of the small, conserved subunits of the nuclear pore complex (NPC), a massive macromolecular assembly that regulates bidirectional transport of RNA, proteins, and signaling molecules across the nuclear envelope. By interacting with scaffold nucleoporins, NUP43 helps stabilize the Y-complex, a structural subassembly of the NPC.

Structurally, NUP43 is a ~43 kDa protein with a WD40 beta-propeller domain that mediates protein-protein interactions. It interacts with NUP107, NUP133, and other Y-complex components to form a stable subcomplex essential for pore assembly. NUP43 localization is restricted to the nuclear envelope, consistent with its structural role in NPC architecture. Its highly conserved nature across species emphasizes its importance in nuclear transport machinery.

Functionally, NUP43 supports NPC assembly, nuclear import and export, and chromatin organization. During mitosis, the Y-complex including NUP43 contributes to reformation of the nuclear envelope after breakdown. Loss of NUP43 destabilizes the Y-complex, impairing nuclear transport and genome organization. Researchers use NUP43 antibody to study nuclear pore biology, gene expression regulation, and nuclear architecture.

Clinically, NUP43 has been linked to cancer and developmental disorders. Altered expression and mutations in nucleoporins, including NUP43, are associated with leukemias and solid tumors, where transport dysregulation promotes abnormal signaling. Variants in NUP43 have also been implicated in neurodevelopmental disorders due to impaired nuclear-cytoplasmic communication. NSJ Bioreagents provides NUP43 antibody for use in nuclear transport, cancer, and developmental biology research.

Experimentally, NUP43 antibody is used in western blotting to detect the ~43 kDa protein, in immunofluorescence to highlight nuclear envelope localization, and in immunohistochemistry to analyze expression in tissue sections. Co-immunoprecipitation with NUP43 antibody identifies interaction partners within the NPC Y-complex.

Application Notes

Optimal dilution of the NUP43 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NUP43 recombinant protein (Position: D76-S380) was used as the immunogen for the NUP43 antibody.

Storage

After reconstitution, the NUP43 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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