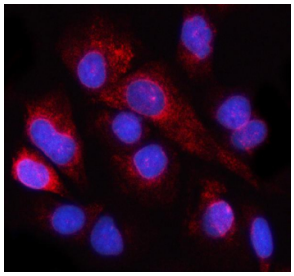
NUP98 Antibody / Nucleoporin 98 (FY12859)

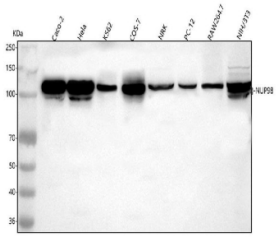
Catalog No.	Formulation	Size
FY12859	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

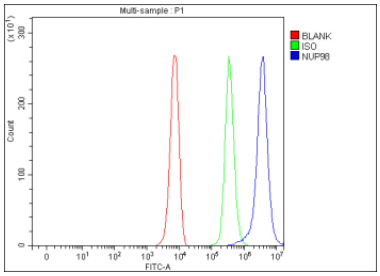
Availability	1-2 days
Species Reactivity	Human, Monkey, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P52948
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NUP98 antibody is available for research use only.



Immunofluorescent staining of NUP98 using anti-NUP98 antibody (red). NUP98 was detected in an immunocytochemical section of 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-NUP98 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of NUP98 using anti-NUP98 antibody. Lane 1: human Caco-2 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: monkey COS-7 whole cell lysates, Lane 5: rat NRK whole cell lysates, Lane 6: rat PC-12 whole cell lysates, Lane 7: mouse RAW264.7 whole cell lysates, Lane 8: mouse NIH/3T3 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-NUP98 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. NUP98 western blot across human and rodent cell lines shows a predominant band just above the 100 kDa marker with a lighter band just below 100 kDa. The paired bands are consistent with differentially modified forms of NUP98, which commonly runs slightly above its predicted 98 kDa due to O-GlcNAc and phosphorylation.



Flow Cytometry analysis of K562 cells using anti-NUP98 antibody. Overlay histogram showing K562 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-NUP98 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 (Red line) was also used as a control.

Description

NUP98 antibody detects Nuclear pore complex protein Nup98, a critical nucleoporin involved in nucleocytoplasmic transport, gene regulation, and mitotic progression. Encoded by the NUP98 gene on chromosome 11p15.4, this large modular protein forms part of the nuclear pore complex (NPC), which mediates bidirectional transport of macromolecules between the nucleus and cytoplasm. Nup98 functions not only as a structural component of the NPC but also as a dynamic regulator of gene expression and chromatin organization.

Nup98 contains FG (phenylalanine-glycine)-repeat domains that form flexible meshwork structures facilitating selective nucleocytoplasmic transport. The C-terminal region anchors to the NPC scaffold via interactions with other nucleoporins such as Nup96 and Nup88. Beyond its classical transport role, Nup98 shuttles between the nuclear envelope and nucleoplasm, where it binds transcriptional regulators, influencing developmental and immune response genes. It also participates in RNA export, mRNA surveillance, and mitotic spindle assembly.

The NUP98 antibody is widely used in cell biology, oncology, and molecular genetics research to study nuclear transport, chromatin organization, and cell cycle regulation. Western blot analysis identifies a 98 kilodalton band corresponding to Nup98, while immunofluorescence shows punctate staining at the nuclear envelope and within nucleoplasmic foci. This antibody supports studies examining NPC function, transcriptional regulation, and nuclear architecture integrity.

Translocations involving NUP98 are recurrent in acute myeloid leukemia (AML) and myelodysplastic syndromes (MDS), producing oncogenic Nup98 fusion proteins such as NUP98-HOXA9 and NUP98-NSD1. These fusions retain the FG-repeat domain of Nup98 but acquire transcriptional activation capabilities from their fusion partners, leading to deregulated gene expression and leukemogenesis. The NUP98 antibody provides a reliable tool for studying such fusion proteins and their oncogenic mechanisms. NSJ Bioreagents validates this antibody for its applications, ensuring accurate detection for nuclear transport and cancer research.

Application Notes

Optimal dilution of the NUP98 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NUP98 recombinant protein (Position: H728-I1787) was used as the immunogen for the NUP98 antibody.

Storage

After reconstitution, the NUP98 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.