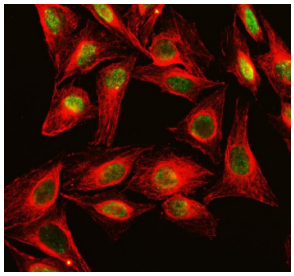
DKC1 Antibody / Dyskerin (FY13179)

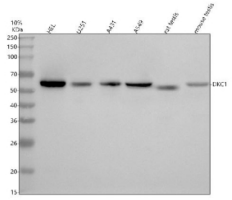
Catalog No.	Formulation	Size
FY13179	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

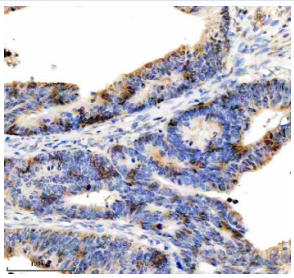
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O60832
Localization	Nucleus, Nucleolus, Cytoplasm
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This DKC1 antibody is available for research use only.



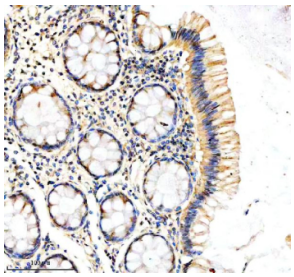
Immunofluorescent staining of DKC1 using anti-DKC1 antibody (green) and anti-Beta Tubulin antibody (red). DKC1 was detected in an immunocytochemical section of human U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-DKC1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight?594 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 DKC1 using anti-DKC1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HEL whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis 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-DKC1 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 DKC1 at approximately 58 kDa. The expected molecular weight of DKC1 is ~58 kDa.



Immunohistochemical staining of DKC1 using anti-DKC1 antibody. DKC1 was detected in a paraffin-embedded section of human colon cancer 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-DKC1 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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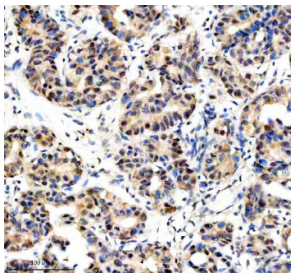
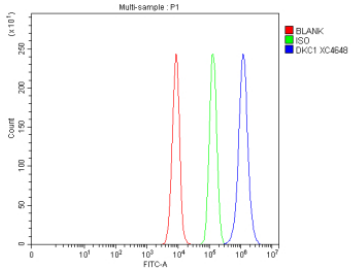


Immunohistochemical staining of DKC1 using anti-DKC1 antibody. DKC1 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-DKC1 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.



Flow Cytometry analysis of cells using anti-DKC1 antibody. Overlay histogram showing 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-DKC1 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

DKC1 antibody detects Dyskerin, a nucleolar pseudouridine synthase essential for ribosomal RNA modification, telomerase stability, and small nucleolar RNP biogenesis. The UniProt recommended name is Dyskerin (DKC1). This enzyme catalyzes the isomerization of uridine to pseudouridine in rRNA and snRNA, ensuring ribosome maturation and

translation fidelity.

Functionally, DKC1 antibody identifies a 514-amino-acid protein localized in the nucleolus and Cajal bodies. DKC1 associates with NOP10, NHP2, and GAR1 to form the H/ACA ribonucleoprotein complex that modifies rRNA and snRNA. It also binds the telomerase RNA component (TERC), stabilizing the telomerase complex for telomere elongation.

The DKC1 gene is located on chromosome Xq28 and is ubiquitously expressed in dividing and metabolically active cells. Dyskerin function is vital for maintaining ribosome synthesis, RNA quality control, and telomere homeostasis. Its activity directly influences cell growth and chromosomal stability.

Pathologically, mutations in DKC1 cause X-linked dyskeratosis congenita, a rare disorder characterized by bone marrow failure, premature aging, and cancer predisposition. Reduced DKC1 function leads to defective rRNA modification, impaired telomerase activity, and genomic instability. Research using DKC1 antibody supports studies in RNA processing, telomere biology, and genetic diseases.

DKC1 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect pseudouridine synthases and nucleolar proteins. NSJ Bioreagents provides DKC1 antibody reagents optimized for studies in ribosome biogenesis, telomerase function, and RNA modification.

Structurally, Dyskerin features a TruB-like catalytic domain with conserved aspartate essential for pseudouridylation activity, and a nuclear localization signal directing nucleolar import. This antibody aids in elucidating DKC1's role in ribonucleoprotein assembly and RNA modification fidelity.

Application Notes

Optimal dilution of the DKC1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human DKC1 recombinant protein (Position: R19-R447) was used as the immunogen for the DKC1 antibody.

Storage

After reconstitution, the DKC1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.