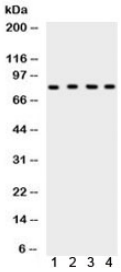
Ku80 Antibody / Cell Cycle Regulation Antibody (R31953)

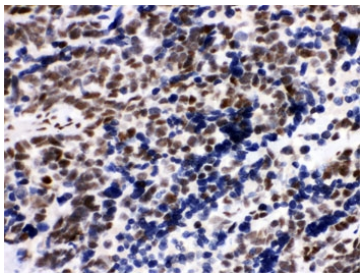
Catalog No.	Formulation	Size
R31953	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

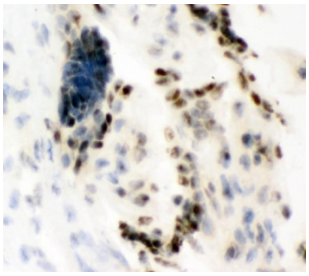
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P13010
Localization	Nuclear
Applications	Western blot: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml Immunohistochemistry (Frozen): 0.5-1ug/ml Flow cytometry: 1-3ug/million cells Immunofluorescence/Immunocytochemistry: 2-4ug/ml
Limitations	This Ku80 antibody is available for research use only.



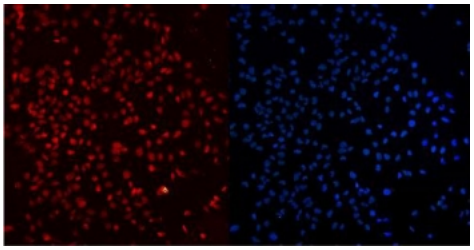
Ku80 Antibody Tissue and Cell Line WB. Western blot analysis of Ku80 (XRCC5) in multiple cell and tissue lysates. Lane 1: rat testis lysate, Lane 2: rat thymus lysate, Lane 3: human HeLa cell lysate, Lane 4: mouse NIH3T3 cell lysate. A band is detected at approximately 80-86 kDa, consistent with the predicted molecular weight of Ku80 (XRCC5). The consistent expression across proliferative tissues and cell lines supports the role of Ku80 in cell cycle regulation, where coordination of DNA repair is required for proper progression through cell division.



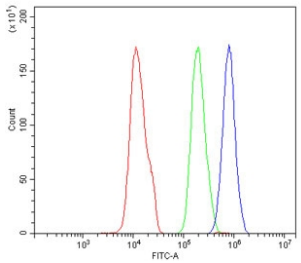
Ku80 Antibody Lung Cancer IHC. Immunohistochemistry analysis of human lung cancer tissue using Ku80 antibody. Formalin-fixed, paraffin-embedded sections show HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with expression of Ku80 (XRCC5) in proliferative cell populations. The staining is enriched within densely cellular tumor regions, reflecting the role of Ku80 in coordinating DNA repair with cell cycle progression. Hematoxylin counterstain highlights nuclei (blue), providing contrast to the Ku80-positive nuclear signal and supporting its function in actively dividing cancer cells.



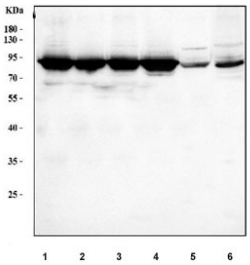
Ku80 Antibody Frozen Placenta IHC. Immunohistochemistry testing of frozen human placenta with Ku80 antibody.



Ku80 Antibody U-2 OS Cell IF. Immunofluorescence analysis of formalin-fixed, paraffin-embedded human U-2 OS cells using Ku80 antibody. The antibody signal (red) shows predominant nuclear localization consistent with Ku80 (XRCC5) expression in actively cycling cells. DAPI (blue) marks nuclei, demonstrating strong overlap of Ku80 signal with nuclear regions. The staining pattern supports the role of Ku80 in coordinating DNA repair with cell cycle progression, particularly in proliferative cell populations.



Flow cytometry testing of human SiHa cells with Ku80 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= Ku80 antibody.



Ku80 Antibody WB. Western blot analysis of Ku80 (XRCC5) in multiple cell and tissue lysates. Lane 1: human HeLa cell lysate, Lane 2: human A549 cell lysate, Lane 3: human 293T cell lysate, Lane 4: human HepG2 cell lysate, Lane 5: rat brain tissue lysate, Lane 6: mouse brain tissue lysate. A band is detected at approximately 80-86 kDa, consistent with the predicted molecular weight of Ku80 (XRCC5). The strong and consistent expression across proliferative cell lines and differentiated tissues supports the role of Ku80 in coordinating DNA repair with cell cycle progression, where maintenance of genomic integrity is required across diverse cellular contexts.

Description

Ku80 (XRCC5) is a DNA repair protein that plays an important role in coordinating cell cycle progression with the repair of DNA damage, ensuring that cells do not propagate genomic errors during division. Ku80 Antibody is uniquely positioned for studies focused on cell cycle regulation, where accurate detection of DNA repair proteins provides insight into how cells synchronize repair processes with progression through G1, S, and G2 phases. As part of the Ku heterodimer with Ku70 (XRCC6), Ku80 binds DNA double-strand breaks and contributes to mechanisms that enforce genomic integrity before cells enter mitosis.

Ku80 Antibody is uniquely positioned for investigating how DNA repair pathways intersect with checkpoint signaling

mechanisms that regulate cell cycle transitions. Ku80 antibody, also known as XRCC5 antibody, detects a nuclear protein whose activity is closely linked to checkpoint activation, particularly in response to DNA damage. Cells rely on Ku80-mediated repair to resolve double-strand breaks prior to cell division, and disruption of this process can lead to checkpoint failure, genomic instability, and uncontrolled proliferation.

Ku80 expression is frequently elevated in proliferating cells, including those in regenerating tissues and tumor environments where cell cycle progression is rapid and tightly regulated. This makes Ku80 a useful marker for studying proliferative capacity and checkpoint control. Its expression and activity can vary across different phases of the cell cycle, providing additional insight into how repair processes are temporally regulated. Detection of Ku80 allows researchers to assess how effectively cells coordinate DNA repair with cell cycle progression and whether checkpoint mechanisms are functioning properly.

In experimental systems, Ku80 can be used to examine the relationship between DNA damage accumulation and cell cycle arrest. Cells exposed to genotoxic stress often exhibit increased reliance on Ku80-mediated repair to maintain viability, particularly during S and G2 phases when DNA replication and repair demands are high. This makes Ku80 a valuable marker for studies of replication stress, checkpoint activation, and cell cycle dysregulation.

As a member of the DNA repair protein family, Ku80 interacts with DNA-dependent protein kinase and other regulatory factors to coordinate repair with cell cycle control. Its integration into both repair and regulatory networks makes it a biologically meaningful indicator of how cells balance proliferation with genome maintenance. Ku80 Antibody provides a focused tool for analyzing cell cycle-associated DNA repair processes and understanding how disruptions in these processes contribute to disease.

For studies focused on XRCC6-associated DNA end recognition and double-strand break repair signaling, see our Ku70 Antibody / DNA End Binding Protein Antibody page featuring IHC and western blot validation data across multiple tumor types and human cell lines.

Application Notes

Optimal dilution of the Ku80 Antibody / Cell Cycle Regulation Antibody should be determined by the researcher.

Immunogen

Amino acids FSEEQRFNNFLKALQEKVEIKQLNHFWE of human Ku80 were used as the immunogen for the Ku80 antibody.

Storage

After reconstitution, the Ku80 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

XRCC5 antibody, Ku80 cell cycle antibody, Ku80 proliferation marker antibody, XRCC5 cell cycle regulation antibody, Ku80 checkpoint protein antibody

Copyright © NSJ Bioreagents. All rights reserved.