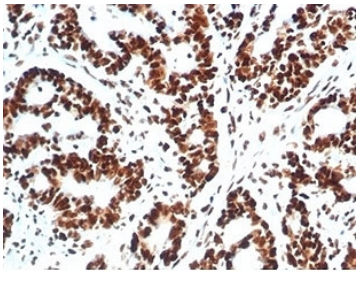
Ku80 Antibody / Non-Homologous End Joining Antibody [clone XRCC5/7317] (V9740)

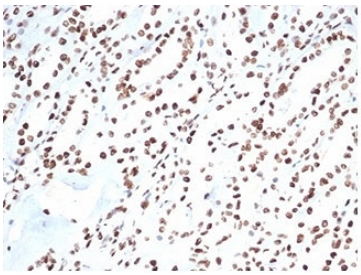
Catalog No.	Formulation	Size
V9740-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9740-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9740SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

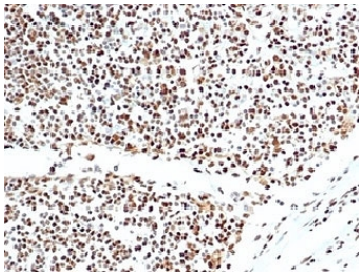
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	XRCC5/7317
Purity	Protein A/G affinity
UniProt	P13010
Localization	Nucleus
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Ku80 Antibody / Non-Homologous End Joining Antibody is available for research use only.



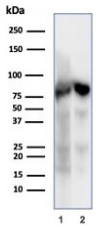
Ku80 Antibody Colon Carcinoma IHC. Immunohistochemistry analysis of FFPE human colon carcinoma tissue stained with Ku80 Antibody demonstrates strong predominantly nuclear HRP-DAB brown staining throughout malignant gland-forming epithelial tumor cell populations, consistent with XRCC5 / Ku80-associated DNA repair pathway expression. This non-homologous end joining antibody highlights double-strand break repair signaling and genomic stability-associated cellular regulation within colorectal carcinoma tissue. Hematoxylin counterstain highlights nuclei (blue), providing contrast to the Ku80-positive nuclear staining pattern.



Ku80 Antibody Kidney IHC. Immunohistochemistry analysis of FFPE human kidney tissue stained with Ku80 Antibody demonstrates strong predominantly nuclear HRP-DAB brown staining throughout renal epithelial and tubular-associated cellular populations, consistent with XRCC5 / Ku80-associated DNA repair pathway expression. This non-homologous end joining antibody highlights double-strand break repair signaling and genomic stability-associated cellular regulation within renal tissue. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Ku80 Antibody Lymph Node IHC. Immunohistochemistry analysis of FFPE human lymph node tissue stained with Ku80 Antibody demonstrates widespread strong nuclear HRP-DAB brown staining throughout lymphoid-associated cellular populations, consistent with XRCC5 / Ku80-associated DNA repair pathway expression in proliferative immune cells. This non-homologous end joining antibody highlights double-strand break repair signaling and genomic stability-associated cellular regulation within lymphoid tissue. Hematoxylin counterstain highlights nuclei (blue), providing contrast to the Ku80-positive nuclear staining pattern.



Ku80 Antibody MOLT-4 and HEK293 WB. Western blot analysis of human 1) MOLT-4 and 2) HEK293 cell lysates using Ku80 Antibody detects strong bands at approximately 80-86 kDa, consistent with the predicted molecular weight of XRCC5 / Ku80. This non-homologous end joining antibody highlights broad expression of DNA double-strand break repair machinery across both lymphoid-derived and epithelial-derived cell lines, supporting the central role of Ku80 in DNA damage response signaling and genomic stability regulation.

Description

Ku80 (XRCC5) is a DNA repair protein that functions as a central component of the non-homologous end joining (NHEJ) pathway responsible for repair of DNA double-strand breaks. Ku80 forms a heterodimeric complex with Ku70 (XRCC6) that binds damaged DNA termini and recruits DNA-dependent protein kinase catalytic subunit (DNA-PKcs) along with additional repair machinery required for genomic maintenance and chromosomal stability. Ku80 Antibody is useful for investigations involving DNA damage response signaling, double-strand break repair pathways, genomic integrity regulation, and DNA repair-associated cellular stress mechanisms.

Ku80 antibody, also referred to as XRCC5 antibody and DNA repair protein Ku80 antibody in the literature, recognizes a ubiquitously expressed nuclear DNA repair factor encoded on chromosome 2q35. Ku80 localizes predominantly to the nucleus where it participates in DNA damage sensing, non-homologous end joining complex assembly, V(D)J recombination, telomere maintenance, and chromatin-associated repair signaling. The Ku70/Ku80 heterodimer functions as one of the earliest DNA damage response complexes recruited to exposed DNA ends generated by radiation, oxidative injury, replication stress, and genotoxic insult.

Ku80 Antibody / Non-Homologous End Joining Antibody (clone XRCC5/7317) is uniquely positioned for studies involving DNA repair pathway assembly and genomic maintenance-associated signaling. This mouse monoclonal antibody supports western blot and immunohistochemical detection of XRCC5-associated DNA repair machinery involved in double-strand break recognition and NHEJ pathway activation. Clone XRCC5/7317 may be useful for investigations examining DNA-PK-associated repair signaling, genomic instability pathways, and tumor-associated DNA damage response regulation.

Ku80 participates directly in recruitment and stabilization of DNA-PK-associated repair complexes required for efficient non-homologous end joining activity. In addition to canonical DNA repair functions, Ku80 has been associated with telomere protection, chromatin remodeling, cellular stress signaling, apoptosis-associated responses, and resistance to

DNA damaging therapies. Altered XRCC5 expression or localization has been linked to genomic instability, radiation resistance, impaired DNA repair competency, tumor progression, and therapeutic response modulation across multiple malignancies.

In tissue-based and protein detection systems, Ku80 expression commonly demonstrates strong nuclear localization consistent with its role in chromatin-associated DNA repair and genomic maintenance pathways. DNA damage-inducing conditions may alter Ku80 recruitment dynamics and repair-associated nuclear organization during active NHEJ signaling. Because XRCC5 functions as a central structural component of DNA end joining machinery, it serves as an important marker for investigations involving DNA repair competency and genomic stability-associated cellular regulation.

This Ku80 Antibody supports research involving non-homologous end joining, DNA double-strand break repair pathways, DNA-PK-associated signaling, genomic stability regulation, chromatin-associated repair mechanisms, telomere maintenance, and DNA damage response biology. Clone XRCC5/7317 may be incorporated into western blot, immunohistochemistry, and tissue-based investigations examining genomic maintenance-associated signaling in normal and diseased tissues.

Explore additional DNA damage response and repair pathway markers on our Signal Transduction Antibodies page, including antibodies targeting non-homologous end joining, DNA-PK signaling, and genomic stability-associated repair mechanisms.

Application Notes

Optimal dilution of the Ku80 Antibody / Non-Homologous End Joining Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 300-500 was used as the immunogen for the Ku80 Antibody / Cancer Biomarker Antibody.

Storage

Aliquot the Ku80 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

XRCC5 antibody, Ku80 antibody, ATP-dependent DNA helicase 2 subunit 2 antibody, Non-homologous end joining antibody, DNA repair protein Ku80 antibody