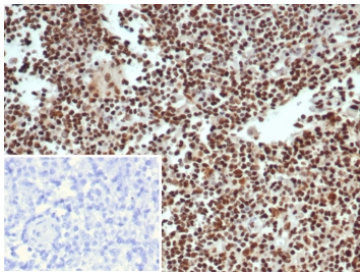
XRCC5 Antibody / Genotoxic Stress Response Antibody [clone XRCC5/7312] (V4943)

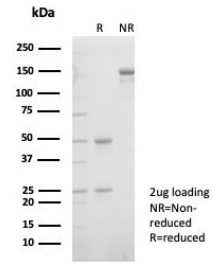
Catalog No.	Formulation	Size
V4943-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4943-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4943SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

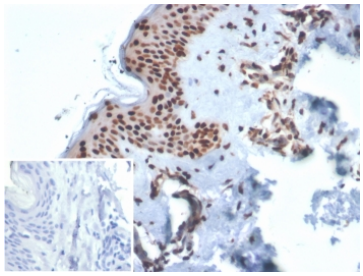
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2c, kappa
Clone Name	XRCC5/7312
Purity	Protein A/G affinity
UniProt	P13010
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This XRCC5 antibody is available for research use only.



XRCC5 Antibody LN IHC. Immunohistochemistry analysis of human lymph node tissue using XRCC5 antibody clone XRCC5/7312. Formalin-fixed, paraffin-embedded sections show strong HRP-DAB brown nuclear staining throughout the lymphoid cell population, consistent with XRCC5 (Ku80) expression in cells actively engaged in DNA damage response pathways. The widespread nuclear signal reflects high cellular turnover and ongoing genomic stress handling in lymphoid tissue. The inset shows PBS used in place of primary antibody (secondary antibody negative control), demonstrating absence of specific staining. Hematoxylin counterstain highlights nuclei (blue), providing contrast to the XRCC5-positive nuclear staining pattern.



SDS-PAGE analysis of purified, BSA-free XRCC5 / Ku86 / Ku80 antibody (clone XRCC5/7312) as confirmation of integrity and purity.



XRCC5 Antibody / Genotoxic Stress Response Antibody. Immunohistochemistry analysis of human skin tissue using XRCC5 antibody clone XRCC5/7312. Formalin-fixed, paraffin-embedded sections show strong HRP-DAB brown nuclear staining in epidermal keratinocytes, with minimal staining in the dermal compartment. The nuclear localization is consistent with XRCC5 (Ku80) expression and reflects engagement of DNA damage response pathways in proliferative epithelial cells exposed to environmental stress. The inset shows PBS used in place of primary antibody (secondary antibody negative control), demonstrating absence of specific staining. Hematoxylin counterstain highlights nuclei (blue), providing contrast to the XRCC5-positive nuclear staining pattern.

Description

XRCC5 (Ku80) is a DNA repair protein that plays a central role in cellular responses to genotoxic stress, where detection and repair of DNA damage are essential for maintaining cell viability and genomic integrity. XRCC5 Antibody is uniquely positioned for studies focused on genotoxic stress response, enabling analysis of how cells detect and respond to DNA damage caused by radiation, oxidative stress, and chemical agents. As part of the Ku heterodimer with XRCC6, XRCC5 binds DNA double-strand breaks and initiates repair processes that are critical for survival under stress conditions.

XRCC5 Antibody is uniquely positioned for investigating the cellular response to DNA damage, where rapid activation of repair pathways determines whether cells recover or undergo cell death. XRCC5 antibody, also referred to as Ku80 antibody, detects a nuclear protein that is rapidly recruited to sites of DNA damage following genotoxic insult. This rapid response makes XRCC5 a key marker for studying early events in the DNA damage response and assessing how cells react to environmental and endogenous stressors.

Under conditions of genotoxic stress, XRCC5 activity increases as cells attempt to repair DNA lesions and restore genomic stability. The extent and efficiency of this response can vary depending on the severity of damage and the cellular context, providing valuable information about cellular resilience and repair capacity. Detection of XRCC5 allows researchers to monitor activation of repair pathways and to evaluate how effectively cells respond to DNA-damaging conditions.

XRCC5 is particularly relevant in cancer research, where tumor cells often rely on enhanced DNA repair mechanisms to survive therapeutic interventions. Its involvement in stress response pathways makes it a useful marker for evaluating sensitivity to radiation and DNA-damaging chemotherapeutic agents. Changes in XRCC5 expression or localization can reflect alterations in repair capacity and cellular adaptation to stress.

As a member of the DNA repair protein family, XRCC5 integrates DNA damage detection with activation of repair processes that determine cellular outcomes. Its role in genotoxic stress response provides a distinct functional identity that is closely tied to cellular survival mechanisms. XRCC5 Antibody provides a focused tool for analyzing DNA damage response activation, cellular stress adaptation, and the mechanisms that preserve genomic integrity under adverse conditions.

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 XRCC5 Antibody / Genotoxic Stress Response Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 300-500) from the human protein was used as the immunogen for the XRCC5 Antibody / Genotoxic Stress Response Antibody.

Storage

Aliquot the XRCC5 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Ku80 antibody, XRCC5 stress response antibody, Ku80 genotoxic stress antibody, XRCC5 DNA damage response antibody, Ku80 repair stress marker antibody