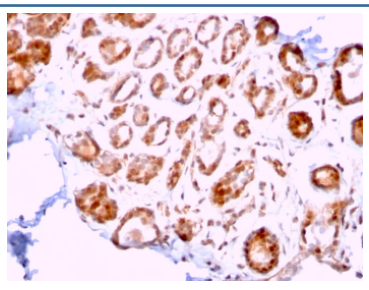
ERCC1 Antibody / DNA Repair Marker Antibody [clone ERCC1/2318] (V9134)

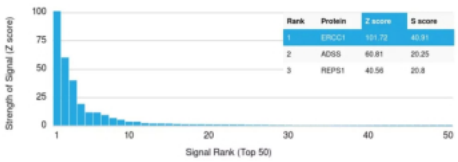
Catalog No.	Formulation	Size
V9134-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9134-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9134SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

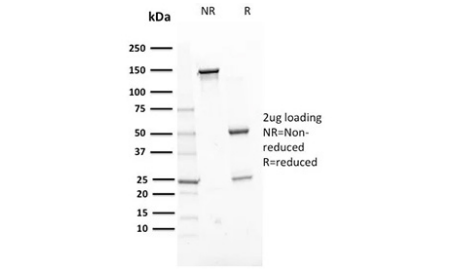
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	ERCC1/2318
Purity	Protein A/G affinity
UniProt	P07992
Localization	Nuclear
Applications	ELISA (order BSA-free format for coating) Immunohistochemistry: 1-2ug/ml
Limitations	This ERCC1 Antibody / DNA Repair Marker Antibody is available for research use only.



ERCC1 Antibody Breast Carcinoma Tissue IHC. Immunohistochemistry analysis of FFPE human breast carcinoma stained with ERCC1 Antibody (clone ERCC1/2318) demonstrates strong HRP-DAB brown nuclear staining in tumor epithelial cells, consistent with the role of ERCC1 in DNA repair processes, while surrounding stromal cells show lower background; antigen retrieval was performed using Tris-EDTA buffer (pH 9) followed by HRP-polymer detection and DAB development.



ERCC1 Antibody HuProt Microarray Specificity. Protein microarray analysis of ERCC1 Antibody (clone ERCC1/2318) screened against more than 19,000 full-length human proteins identifies ERCC1 as the top-ranked target with the highest signal intensity, demonstrating strong specificity relative to other proteins on the array. Z-score reflects signal strength in standard deviations above the mean, while S-score indicates the relative separation between ranked targets, supporting selective recognition of ERCC1.



ERCC1 Antibody SDS-PAGE Purity Analysis. SDS-PAGE analysis of purified ERCC1 Antibody (mouse monoclonal, clone ERCC1/2318) under non-reducing (NR) and reducing (R) conditions demonstrates bands corresponding to intact antibody (~150 kDa) in NR lanes and heavy (~50 kDa) and light (~25 kDa) chains in R lanes, confirming antibody purity and structural integrity.

Description

Excision repair cross-complementation group 1 (ERCC1) is a key component of the nucleotide excision repair (NER) pathway, where it functions in the repair of DNA damage caused by ultraviolet radiation and chemical agents. The ERCC1 antibody recognizes a nuclear DNA repair protein that forms a heterodimer with XPF (ERCC4) to mediate structure-specific endonuclease activity essential for excision of damaged DNA segments. This antibody is part of a collection of Human Protein Microarray validated antibodies that have been screened for specificity across thousands of proteins.

ERCC1 plays a central role in maintaining genomic stability by participating in multiple DNA repair processes, including nucleotide excision repair, interstrand crosslink repair, and double-strand break repair pathways. Through its interaction with XPF, ERCC1 contributes to incision of DNA at sites of damage, enabling removal of lesions and subsequent DNA synthesis and ligation. This function is critical for cell survival following genotoxic stress and for prevention of mutation accumulation.

Expression of ERCC1 is primarily nuclear, consistent with its role in DNA repair, and is observed across a wide range of normal tissues. In tumor biology, ERCC1 expression has been widely studied due to its association with cellular response to DNA-damaging agents. Elevated ERCC1 levels have been linked to enhanced DNA repair capacity, which may influence tumor resistance to chemotherapy and radiation therapy. As a result, ERCC1 is frequently evaluated in cancer research, particularly in epithelial malignancies such as lung, bladder, and breast carcinoma.

Immunohistochemistry analysis typically demonstrates nuclear localization in tumor epithelial cells, reflecting active DNA repair processes. Differences in staining intensity and distribution may provide insight into cellular repair activity and tumor heterogeneity. In addition to tissue-based detection, ERCC1 can be analyzed by western blot to assess protein expression levels across different biological samples.

This antibody has been validated using protein microarray technology, demonstrating strong specificity for ERCC1 among a broad panel of human proteins. The mouse monoclonal clone ERCC1/2318 provides defined and consistent detection suitable for studies of DNA repair, genomic stability, and tumor biology. Combined with application data in immunohistochemistry and biochemical assays, this reagent supports comprehensive analysis of ERCC1 function and expression.

ERCC1 functions within a broader network of DNA repair proteins, including XPF, XPA, and other components of the nucleotide excision repair pathway. Coordinated activity of these factors ensures efficient recognition and removal of DNA lesions, maintaining genomic integrity under both physiological and stress conditions.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the ERCC1 Antibody / DNA Repair Marker Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 191-281 was used as the immunogen for the ERCC1 antibody.

Storage

Aliquot the ERCC1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

ERCC1 antibody, Excision repair cross-complementation group 1 antibody, DNA excision repair protein ERCC1 antibody, ERCC1 DNA repair antibody, ERCC1 nuclear protein antibody

Copyright © NSJ Bioreagents. All rights reserved.