

# ERCC1 (SPM243): sc-56386

## BACKGROUND

Xeroderma pigmentosum (XP) is an autosomal recessive disorder characterized by a genetic predisposition to sunlight-induced skin cancer; it is commonly due to deficiencies in DNA repair enzymes. The most frequent mutations are found in the XP genes from group A through G and group V, which encode for nucleotide excision repair proteins. XPF, which is also designated ERCC4 or ERCC11, associates directly with the excision repair cross-complementing 1 (ERCC1) factor. ERCC1, a functional homolog of Rad10 in *S. cerevisiae*, is a component of a structure-specific endonuclease that is responsible for 5' incisions during DNA repair. The ERCC1-XPF endonuclease preferentially cleaves one strand of DNA between duplex and single-stranded regions near borders of the stem-loop structure and, thereby, contributes to the initial steps of the nucleotide excision repair process.

## REFERENCES

1. van Duin, M., et al. 1986. Molecular characterization of the human excision repair gene ERCC1: cDNA cloning and amino acid homology with the yeast DNA repair gene Rad10. *Cell* 44: 913-923.
2. Biggerstaff, M., et al. 1993. Co-correction of the ERCC1, ERCC4 and xeroderma pigmentosum group F DNA repair defects *in vitro*. *EMBO J.* 12: 3685-3692.

## CHROMOSOMAL LOCATION

Genetic locus: ERCC1 (human) mapping to 19q13.32.

## SOURCE

ERCC1 (SPM243) is a mouse monoclonal antibody raised against recombinant full length ERCC1 of human origin.

## PRODUCT

Each vial contains 50 µg IgG<sub>2b</sub> in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ERCC1 (SPM243) is recommended for detection of ERCC1 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ERCC1 siRNA (h2): sc-270369, ERCC1 shRNA Plasmid (h2): sc-270369-SH and ERCC1 shRNA (h2) Lentiviral Particles: sc-270369-V.

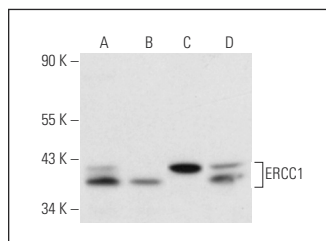
Molecular Weight of ERCC1: 38 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, SK-BR-3 nuclear extract: sc-2134 or 3611-RF nuclear extract: sc-2143.

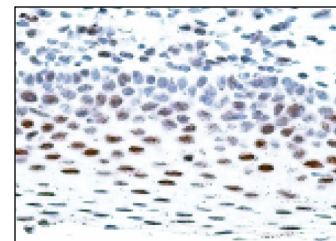
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



ERCC1 (SPM243): sc-56386. Western blot analysis of ERCC1 expression in SK-BR-3 (A), HeLa (B) and 3611-RF (C) nuclear extracts and UV-treated HeLa whole cell lysate (D).



ERCC1 (SPM243): sc-56386. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Metro, G., et al. 2010. *In situ* protein expression of RRM1, ERCC1, and BRCA1 in metastatic breast cancer patients treated with gemcitabine-based chemotherapy. *Cancer Invest.* 28: 172-180.
2. Chiappori, A.A., et al. 2010. Features of potentially predictive biomarkers of chemotherapeutic efficacy in small cell lung cancer. *J. Thorac. Oncol.* 5: 484-490.
3. Hirakawa, M., et al. 2013. A phase II study of neoadjuvant combination chemotherapy with docetaxel, cisplatin, and S-1 for locally advanced resectable gastric cancer: nucleotide excision repair (NER) as potential chemoresistance marker. *Cancer Chemother. Pharmacol.* 71: 789-797.
4. Furukawa, S., et al. 2017. Databases for technical aspects of immunohistochemistry. *J. Toxicol. Pathol.* 30: 79-107.
5. Zhou, J., et al. 2018. Predictive value of excision repair cross-complementation group 1 protein in locoregionally advanced nasopharyngeal carcinomas receiving cisplatin-based concurrent chemoradiotherapy. *J. Cancer Res. Ther.* 14: S145-S151.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **ERCC1 (D-10): sc-17809** for ERCC1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.