

ERCC1 (3H11): sc-53281

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: ERCC1 (human) mapping to 19q13.32; Ercc1 (mouse) mapping to 7 A3.

SOURCE

ERCC1 (3H11) is a mouse monoclonal antibody raised against full length ERCC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ERCC1 (3H11) is recommended for detection of ERCC1 of mouse, rat and human 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)] 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 siRNA (m): sc-35332, ERCC1 shRNA Plasmid (h2): sc-270369-SH, ERCC1 shRNA Plasmid (m): sc-35332-SH, ERCC1 shRNA (h2) Lentiviral Particles: sc-270369-V and ERCC1 shRNA (m) Lentiviral Particles: sc-35332-V.

Molecular Weight of ERCC1: 38 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, ERCC1 (m): 293T Lysate: sc-126803 or MIA PaCa-2 cell lysate: sc-2285.

RECOMMENDED SUPPORT REAGENTS

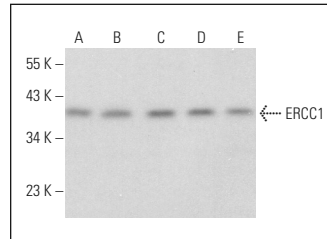
To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

RESEARCH USE

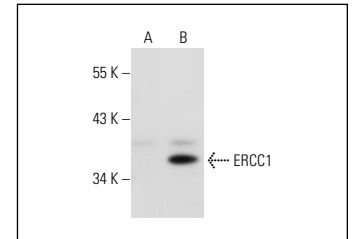
For research use only, not for use in diagnostic procedures.

STORAGE

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

DATA

ERCC1 (3H11): sc-53281. Western blot analysis of ERCC1 expression in HeLa nuclear extract (A) and MIA PaCa-2 (B), AN3 CA (C), A-431 (D) and MCF7 (E) whole cell lysates.



ERCC1 (3H11): sc-53281. Western blot analysis of ERCC1 expression in non-transfected: sc-117752 (A) and mouse ERCC1 transfected: sc-126803 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Worrad, D.M., et al. 1994. Reversing effect of sorcin in the drug resistance of human nasopharyngeal carcinoma. *Development* 120: 2347-2357.
2. Latimer, J.J., et al. 2010. Nucleotide excision repair deficiency is intrinsic in sporadic stage I breast cancer. *Proc. Natl. Acad. Sci. USA* 107: 21725-21730.
3. Besançon, O.G., et al. 2012. Synergistic interaction between cisplatin and gemcitabine in neuroblastoma cell lines and multicellular tumor spheroids. *Cancer Lett.* 319: 23-30.
4. Friboulet, L., et al. 2013. ERCC1 function in nuclear excision and interstrand crosslink repair pathways is mediated exclusively by the ERCC1-202 isoform. *Cell Cycle* 12: 3298-3306.
5. Postel-Vinay, S., et al. 2013. A high-throughput screen identifies PARP1/2 inhibitors as a potential therapy for ERCC1-deficient non-small cell lung cancer. *Oncogene* 32: 5377-5387.
6. Xiong, Y., et al. 2016. Co-delivery of polymeric metformin and cisplatin by self-assembled core-membrane nanoparticles to treat non-small cell lung cancer. *J. Control. Release* 244: 63-73.
7. Wang, X., et al. 2017. ERCC1_202 is a prognostic biomarker in advanced stage non-small cell lung cancer patients treated with platinum-based chemotherapy. *J. Cancer* 8: 2846-2853.
8. Kuo, M.S., et al. 2018. A novel antibody-based approach to detect the functional ERCC1-202 isoform. *DNA Repair*. 64: 34-44.
9. Rao, D., et al. 2019. Excision repair cross-complementing group-1 (ERCC1) induction kinetics and polymorphism are markers of inferior outcome in patients with colorectal cancer treated with oxaliplatin. *Oncotarget* 10: 5510-5522.



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