SANTA CRUZ BIOTECHNOLOGY, INC.

ERCC1 (m): 293T Lysate: sc-126803

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.
3. Tateishi, S., et al. 1995. Separation of protein factors that correct the defects in the seven complementation groups of xeroderma pigmentosum cells. J. Biochem. 118: 819-824.
4. Aboussekhra, A., et al. 1995. Mammalian DNA nucleotide excision repair reconstituted with purified protein components. Cell 80: 859-868.
5. Li, L., et al. 1995. Mutations in XPA that prevent association with ERCC1 are defective in nucleotide excision repair. Mol. Cell. Biol. 15: 1993-1998.
6. Sijbers, A.M., et al. 1996. Xeroderma pigmentosum group F caused by a defect in a structure-specific DNA repair endonuclease. Cell 86: 811-822.
7. Miura, M., et al. 1996. Roles of XPG and XPF/ERCC1 endonucleases in UV-induced immunostaining of PCNA in fibroblasts. Exp. Cell Res. 226: 126-132.
8. Hayashi, T., et al. 1998. ERCC1 mutations in UV-sensitive Chinese hamster ovary (CHO) cell lines. Mutat. Res. 407: 269-276.
9. Wakasugi, M. and Sancar, A. 1999. Order of assembly of human DNA repair excision nuclease. J. Biol. Chem. 274: 18759-18768.

CHROMOSOMAL LOCATION

Genetic locus: Ercc1 (mouse) mapping to 7 A3.

PRODUCT

ERCC1 (m): 293T Lysate represents a lysate of mouse ERCC1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

ERCC1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive ERCC1 antibodies. Recommended use: 10-20 µl per lane.

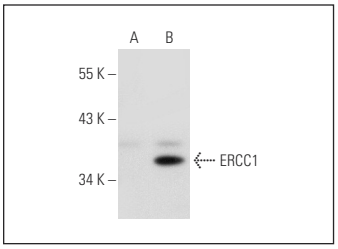
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ERCC1 (3H11): sc-53281 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse ERCC1 expression in ERCC1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

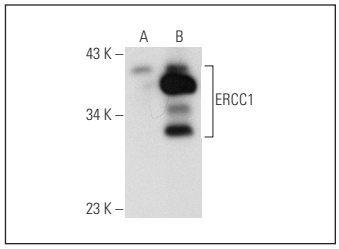
RECOMMENDED SUPPORT REAGENTS

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.

DATA



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.



ERCC1 (D-10): sc-17809. Western blot analysis of ERCC1 expression in non-transfected: sc-117752 (**A**) and mouse ERCC1 transfected: sc-126803 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.