SANTA CRUZ BIOTECHNOLOGY, INC.

ERCC1 (A-2): sc-515258

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. ERCC-1, 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 endo-nuclease 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 ERCC-1: 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.

CHROMOSOMAL LOCATION

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

SOURCE

ERCC1 (A-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 15-34 within an internal region of ERCC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515258 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-515020 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

ERCC1 (A-2) is recommended for detection of ERCC1 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

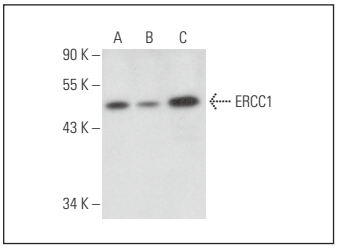
Suitable for use as control antibody for ERCC1 siRNA (h2): sc-270369, ERCC1 shRNA Plasmid (h2): sc-270369-SH and ERCC1 shRNA (h2) Lentiviral Particles: sc-270369-V.

ERCC1 (A-2) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ERCC1: 38 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, SK-BR-3 cell lysate: sc-2218 or HeLa nuclear extract: sc-2120.

DATA



ERCC1 (A-2): sc-515258. Western blot analysis of ERCC1 expression in A-431 (**A**) and SK-BR-3 (**B**) whole cell lysates and HeLa nuclear extract (**C**).

STORAGE

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

PROTOCOLS

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

CONJUGATES

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.