

# ERCC1 (D-10): sc-17809

## 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 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

ERCC1 (D-10) is a mouse monoclonal antibody raised against amino acids 1-297 representing full length DNA excision repair protein 1 (ERCC1) of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain 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-17809 X, 200 µg/0.1 ml.

ERCC1 (D-10) is available conjugated to agarose (sc-17809 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17809 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17809 PE), fluorescein (sc-17809 FITC), Alexa Fluor® 488 (sc-17809 AF488), Alexa Fluor® 546 (sc-17809 AF546), Alexa Fluor® 594 (sc-17809 AF594) or Alexa Fluor® 647 (sc-17809 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17809 AF680) or Alexa Fluor® 790 (sc-17809 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

ERCC1 (D-10) is recommended for detection of ERCC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:300), 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).

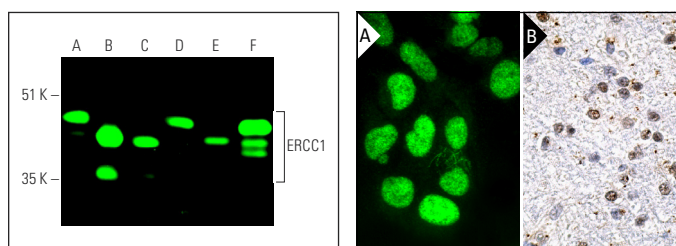
Suitable for use as control antibody for ERCC1 siRNA (h): sc-35331, ERCC1 siRNA (m): sc-35332, ERCC1 shRNA Plasmid (h): sc-35331-SH, ERCC1 shRNA Plasmid (m): sc-35332-SH, ERCC1 shRNA (h) Lentiviral Particles: sc-35331-V and ERCC1 shRNA (m) Lentiviral Particles: sc-35332-V.

ERCC1 (D-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ERCC1: 38 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, SK-BR-3 cell lysate: sc-2218 or COLO 320DM cell lysate: sc-2226.

## DATA



ERCC1 (D-10): sc-17809. Near-infrared western blot analysis of ERCC1 expression in HeLa (A) and 3611-RF (B) nuclear extracts and CHO (C), SK-BR-3 (D), NIH/3T3 (E) and COLO 320DM (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

ERCC1 (D-10): sc-17809. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing nuclear staining of neuronal and glial cells (B).

## SELECT PRODUCT CITATIONS

1. Cummings, M., et al. 2006. XPA versus ERCC1 as chemosensitising agents to cisplatin and mitomycin C in prostate cancer cells: role of ERCC1 in homologous recombination repair. *Biochem. Pharmacol.* 72: 166-175.
2. Tomita, T., et al. 2014. ZFC3H1, a zinc finger protein, modulates IL-8 transcription by binding with celastrol, a potential immune suppressor. *PLoS ONE* 9: e108957.
3. Chatzinikolaou, G., et al. 2017. ERCC1-XPF cooperates with CTCF and cohesin to facilitate the developmental silencing of imprinted genes. *Nat. Cell Biol.* 19: 421-432.
4. Robinson, A.R., et al. 2018. Spontaneous DNA damage to the nuclear genome promotes senescence, redox imbalance and aging. *Redox Biol.* 17: 259-273.

## RESEARCH USE

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