

XPG (h2): 293T Lysate: sc-170683

BACKGROUND

Seven complementation groups (A-G) of xeroderma pigmentosum have been described. The xeroderma pigmentosum group A protein, XPA, is a zinc metalloprotein which preferentially binds to DNA damaged by ultraviolet (UV) radiation and chemical carcinogens. XPA is a DNA repair enzyme that has been shown to be required for the incision step of nucleotide excision repair. XPG (also designated ERCC5) is an endonuclease that makes the 3' incision in DNA nucleotide excision repair. Mammalian XPG is similar in sequence to yeast RAD2. Conserved residues in the catalytic center of XPG are important for nuclease activity and function in nucleotide excision repair.

REFERENCES

1. Scherly, D., et al. 1993. Complementation of the DNA repair defect in xeroderma pigmentosum group G cells by a human cDNA related to yeast RAD2. *Nature* 363: 182-185.
2. Shiomi, T., et al. 1994. An ERCC5 gene with homology to yeast RAD2 is involved in group G xeroderma pigmentosum. *Mutat. Res.* 314: 167-175.
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. Nakane, H., et al. 1995. High incidence of ultraviolet-B or chemical-carcinogen-induced skin tumours in mice lacking the xeroderma pigmentosum group A gene. *Nature* 377: 165-168.
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. Kuraoka, I., et al. 1996. Identification of a damaged-DNA binding domain of the XPA protein. *Mutat. Res.* 362: 87-95.
7. Constantinou, A., et al. 1999. Conserved residues of human XPG protein important for nuclease activity and function in nucleotide excision repair. *J. Biol. Chem.* 274: 5637-5648.
8. Cappelli, E., et al. 1999. The DNA helicases acting in nucleotide excision repair, XPD, CSB and XPB, are not required for PCNA-dependent repair of abasic sites. *Eur. J. Biochem.* 259: 325-330.
9. Riou, L., et al. 1999. The relative expression of mutated XPB genes results in xeroderma pigmentosum/Cockayne's syndrome or trichothiodystrophy cellular phenotypes. *Hum. Mol. Genet.* 8: 1125-1133.

CHROMOSOMAL LOCATION

Genetic locus: ERCC5 (human) mapping to 13q33.1.

PRODUCT

XPG (h2): 293T Lysate represents a lysate of human XPG 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

XPG (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive XPG 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.

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.