SANTA CRUZ BIOTECHNOLOGY, INC.

XPG (T-17): sc-84663

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; Ercc5 (mouse) mapping to 1 C1.1.

SOURCE

XPG (T-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of XPG of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84663 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

XPG (T-17) is recommended for detection of XPG 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)], 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).

XPG (T-17) is also recommended for detection of XPG in additional species, including equine, canine, bovine, porcine and avian.

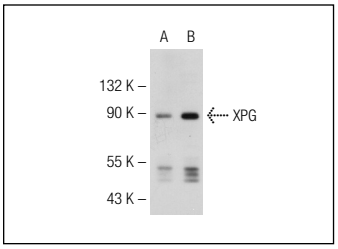
Suitable for use as control antibody for XPG siRNA (h): sc-36857, XPG siRNA (m): sc-36858, XPG shRNA Plasmid (h): sc-36857-SH, XPG shRNA Plasmid (m): sc-36858-SH, XPG shRNA (h) Lentiviral Particles: sc-36857-V and XPG shRNA (m) Lentiviral Particles: sc-36858-V.

Molecular Weight (predicted) of XPG isoforms: 133/47 kDa.

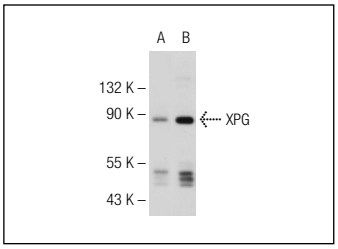
Molecular Weight (observed) of XPG isoforms: 200/90 kDa.

Positive Controls: XPG (h2): 293T Lysate: sc-170683 or K-562 nuclear extract: sc-2130.

DATA



XPG (T-17): sc-84663. Western blot analysis of XPG expression in non-transfected: sc-117752 (**A**) and human XPG transfected: sc-170683 (**B**) 293T whole cell lysates.



XPG (T-17): sc-84663. Western blot analysis of XPG expression in non-transfected: sc-117752 (**A**) and human XPG transfected: sc-170096 (**B**) 293T whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **XPG (8H7): sc-13563** or **XPG (G-4): sc-393004**, our highly recommended monoclonal alternatives to XPG (T-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **XPG (8H7): sc-13563**.