SANTA CRUZ BIOTECHNOLOGY, INC.

XPF (M-16): sc-10164

BACKGROUND

Xeroderma Pigmentosum (XP) is an autosomal recessive disorder characterized by a genetic predisposition to sunlight-induced skin cancer, and 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, is a protein that 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 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. 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.
3. Aboussekhra, A., et al. 1995. Mammalian DNA nucleotide excision repair reconstituted with purified protein components. Cell 80: 859-868.
4. 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.
5. 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.
6. Wakasugi, M., et al. 1999. Order of assembly of human DNA repair excision nuclease. J. Biol. Chem. 274: 18759-18768.
7. Houtsmuller, A.B., et al. 1999. Action of DNA repair endonuclease ERCC1/XPF in living cells. Science 284: 958-961.

CHROMOSOMAL LOCATION

Genetic locus: ERCC4 (human) mapping to 16p13.12; Ercc4 (mouse) mapping to 16 A1.

SOURCE

XPF (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of XPF of mouse origin.

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-10164 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

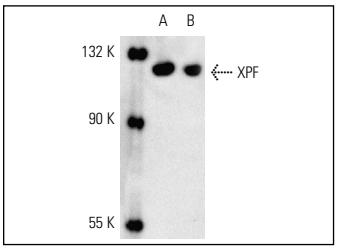
XPF (M-16) is recommended for detection of XPF of mouse, rat and human Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for XPF siRNA (h): sc-36855, XPF siRNA (m): sc-36856, XPF shRNA Plasmid (h): sc-36855-SH, XPF shRNA Plasmid (m): sc-36856-SH, XPF shRNA (h) Lentiviral Particles: sc-36855-V and XPF shRNA (m) Lentiviral Particles: sc-36856-V.

Molecular Weight of XPF: 112 kDa.

Positive Controls: KNRK nuclear extract: sc-2141 or HeLa nuclear extract: sc-2120.

DATA



XPF (M-16): sc-10164. Western blot analysis of XPF expression in HeLa (**A**) and KNRK (**B**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Li, P.Y., et al. 2007. Antibiotic amoxicillin induces DNA lesions in mammalian cells possibly via the reactive oxygen species. Mutat. Res. 629: 133-139.
2. Pu, Y.S., et al. 2007. 8-Oxoguanine DNA glycosylase and MutY homolog are involved in the incision of arsenite-induced DNA adducts. Toxicol. Sci. 95: 376-382.
3. Karakasilioti, I., et al. 2013. DNA damage triggers a chronic autoinflammatory response, leading to fat depletion in NER progeria. Cell Metab. 18: 403-415.

STORAGE

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