

XPF (F-11): sc-398032

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. 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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

XPF (F-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 888-911 at the C-terminus of XPF of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

XPF (F-11) is available conjugated to agarose (sc-398032 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398032 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398032 PE), fluorescein (sc-398032 FITC), Alexa Fluor® 488 (sc-398032 AF488), Alexa Fluor® 546 (sc-398032 AF546), Alexa Fluor® 594 (sc-398032 AF594) or Alexa Fluor® 647 (sc-398032 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398032 AF680) or Alexa Fluor® 790 (sc-398032 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398032 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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

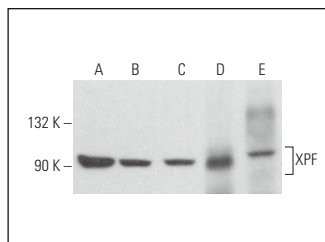
XPF (F-11) is recommended for detection of XPF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 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.

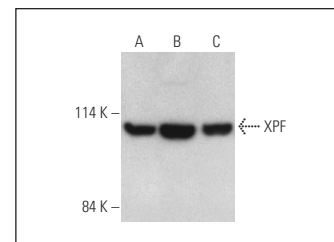
Molecular Weight of XPF: 112 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 whole cell lysate: sc-2203 or mouse lymph node extract: sc-364243.

DATA



XPF (F-11): sc-398032. Western blot analysis of XPF expression in HeLa (A), K-562 (B) and RAW 264.7 (C) whole cell lysates and mouse lymph node (D) and rat thymus (E) tissue extracts.



XPF (F-11) HRP: sc-398032 HRP. Direct western blot analysis of XPF expression in HeLa (A), KNRK (B) and NIH/3T3 (C) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Chatzidoukaki, O., et al. 2021. R-loops trigger the release of cytoplasmic ssDNAs leading to chronic inflammation upon DNA damage. *Sci. Adv.* 7: eabj5769.
2. Shih, H.T., et al. 2022. DNMT3b protects centromere integrity by restricting R-loop-mediated DNA damage. *Cell Death Dis.* 13: 546.
3. Templeton, C.W., et al. 2022. UV irradiation of vaccinia virus-infected cells impairs cellular functions, introduces lesions into the viral genome, and uncovers repair capabilities for the viral replication machinery. *J. Virol.* 96: e0213721.
4. Zhang, Y., et al. 2022. And-1 coordinates with the FANCM complex to regulate Fanconi anemia signaling and cisplatin resistance. *Cancer Res.* 82: 3249-3262.
5. Yang, Z., et al. 2024. The m⁶A reader YTHDC2 regulates UVB-induced DNA damage repair and histone modification. *Photochem. Photobiol.* 100: 1031-1040.

RESEARCH USE

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