Anti-XPA antibody, mouse monoclonal (5F12)

Product code	70-031
Size	100 μg
Storage	-20℃
Concentration	1.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Purified IgG fraction with protein A from hybridoma cell culture medium.
Immunogen	Recombinant full-length human XPA protein
Isotype	Mouse IgG2b
Reactivity	Human (expected to react also with mouse XPA from the sequence homology)
Special notes	Epitope: Amino acids 30-47
Application	1. Western blotting (1/1,000~1/10,000) 2. Immunofluorescence staining (1/100~1/1,000) 3. ELISA 4. Inhibition of in vitro excision repair reaction 5. Inhibition of XPA interaction with ERCC1 and TFIIH Other applications have not been tested.
Background	XP (Xeroderma pigmentosum) is an autosomal recessive human disease characterized by hypersensitivity to sunlight and a high incidence of skin cancer on sun-exposed skin (1). Cells from XP patients are hypersensitive to killing by UV irradiation because of a defect in nucleotide excision repair (NER). XP is classified into seven complementation groups (A~G) and a variant form (1). XPA shows the most severe symptoms. Products encoded by the XP genes function in repairing UV-induced cyclobutane pyrimidine dimmer and (6-4) photoproducts as well as chemically induced variety of DNA lesions (1). XPA protein consists of 273 amino acids and forms a complex with many proteins such as RPA, ERCC1, TFIIH、XAB1, and XAB2, which plays a role in early step of NER. The hybridoma 5F12 was constructed by Prof. K. Tanaka's group who first cloned the XPA gene (2, 3).
Data Link	UniProtKB/Swiss-Prot P23025 (XPA_HUMAN)

Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.

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Data Images: 70-031 Anti-XPA antibody, mouse monoclonal (5F12)

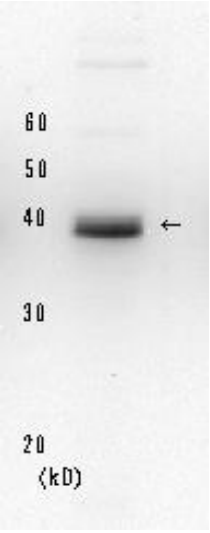

Fig.1 Western blot of endogenous XpA protein.

Hela cell whole extrac (20 µg)t.

Antibody was used at 1/2,000 dilution.

As secondary antibody, HRP conjugated goat anti-mouse IgG was used at 1/20,000 dilution.

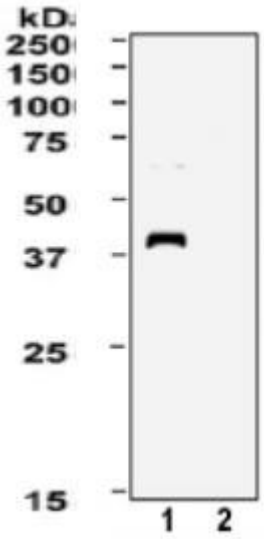

Fig 2 Western blot of XpA: Validation.

Lane 1. Extract of Hela cells (XpA wild type)

Lane 2. Extract of XP12ROSV cells (XpA deficient)

The primary and the secondary antibodies were used at 1/2,000 and 1/20,000 dilutions.

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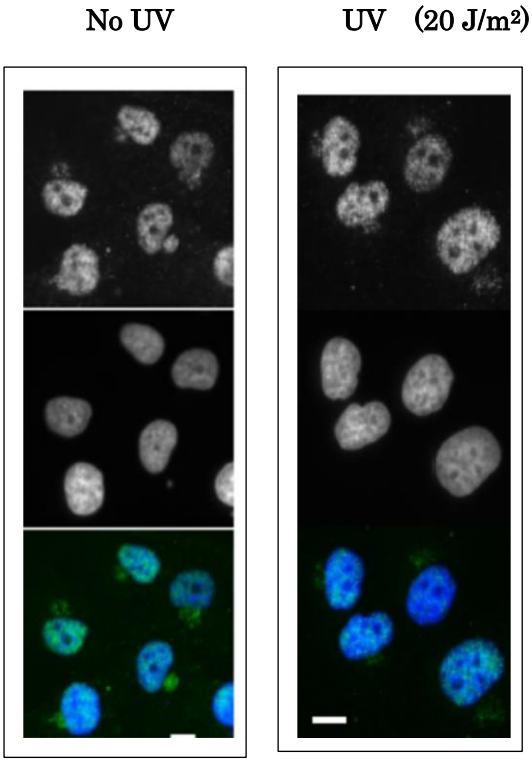

Fig.2 Immunofluorescence staining of human fibroblast cells (GM0637) using anti-XpA antibody (5F12)

The cells were non-irradiated (left) or irradiated with UV at 20 J/m² and fixed after 30 min with paraform aldehyde. The antibody was used at 1/100 dilution and as the second antibody, Alexa 488 conjugated goat anti-mouse IgG was used at 1/5,000 dilution.

References: This antibody is described and used in Ref. 2

1. Friedberg EC *et al DNA Repair and Mutagenesis* 2nd ed., ASM Press (2006)
2. Saijo M *et al* "Inhibition of nucleotide excision repair by anti-XPA monoclonal antibodies which interefere with binding to RPA, ERCC1, and TFIIH" *Biochem Biophys Res Comm* 321:815-822 (2004) PMID: 15358100
3. Tanaka K *et al* "Analysis of a human DNA excision repair gene involved in group A xeroderma pigmentosum and containing a zinc-finger domain" *Nature* 348:73 -76 (1990) PMID: 2234061

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