abcam

Product datasheet

Anti-XPD antibody [4G2-2A6] ab54676

1 Abreviews 17 References 3 Images

Overview

Product name	Anti-XPD antibody [4G2-2A6]
Description	Mouse monoclonal [4G2-2A6] to XPD
Host species	Mouse
Tested applications	**Suitable for:** WB, Flow Cyt, IP
Species reactivity	**Reacts with:** Human
Immunogen	Recombinant full length protein, corresponding to amino acids 1-406 of Human XPD
General notes	This product was changed from ascites to tissue culture supernatant on 30th April 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.40
Purity	Tissue culture supernatant
Purification notes	Purified from TCS.
Clonality	Monoclonal
Clone number	4G2-2A6
Isotype	IgG1
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab54676 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (1)	Use at an assay dependent concentration. Predicted molecular weight: 87 kDa.
Flow Cyt		Use at an assay dependent concentration. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IP		Use at an assay dependent concentration.

Target

Function ATP-dependent 5'-3' DNA helicase, component of the core-TFIIH basal transcription factor. Involved in nucleotide excision repair (NER) of DNA by opening DNA around the damage, and in RNA transcription by RNA polymerase II by anchoring the CDK-activating kinase (CAK) complex, composed of CDK7, cyclin H and MAT1, to the core-TFIIH complex. Involved in the regulation of vitamin-D receptor activity. As part of the mitotic spindle-associated MMXD complex it plays a role in chromosome segregation. Might have a role in aging process and could play a causative role in the generation of skin cancers.

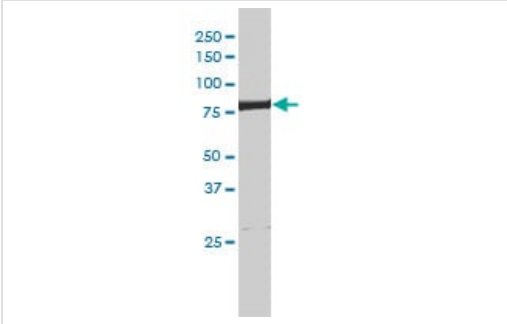
Involvement in disease Defects in ERCC2 are the cause of xeroderma pigmentosum complementation group D (XP-D) [MIM:278730]; also known as XP group D (XPD). Xeroderma pigmentosum is an autosomal recessive pigmentary skin disorder characterized by solar hypersensitivity of the skin, high predisposition for developing cancers on areas exposed to sunlight and, in some cases, neurological abnormalities. Some XP-D patients present features of Cockayne syndrome, including dwarfism, sensorineural deafness, microcephaly, mental retardation, pigmentary retinopathy, ataxia, decreased nerve conduction velocities.
Defects in ERCC2 are a cause of trichothiodystrophy photosensitive (TTDP) [MIM:601675]. TTDP is an autosomal recessive disease characterized by sulfur-deficient brittle hair and nails, ichthyosis, mental retardation, impaired sexual development, abnormal facies and cutaneous photosensitivity correlated with a nucleotide excision repair (NER) defect. Neonates with trichothiodystrophy and ichthyosis are usually born with a collodion membrane. The severity of the ichthyosis after the membrane is shed is variable, ranging from a mild to severe lamellar ichthyotic phenotype. There are no reports of skin cancer associated with TTDP.
Defects in ERCC2 are the cause of cerebro-oculo-facio-skeletal syndrome type 2 (COFS2) [MIM:610756]. COFS is a degenerative autosomal recessive disorder of prenatal onset affecting the brain, eye and spinal cord. After birth, it leads to brain atrophy, hypoplasia of the corpus callosum, hypotonia, cataracts, microcornea, optic atrophy, progressive joint contractures and growth failure. Facial dysmorphism is a constant feature. Abnormalities of the skull, eyes, limbs, heart and kidney also occur.

Sequence similarities Belongs to the helicase family. RAD3/XPD subfamily.
Contains 1 helicase ATP-binding domain.

Post-translational modifications ISGylated.

Cellular localization Nucleus. Cytoplasm > cytoskeleton > spindle.

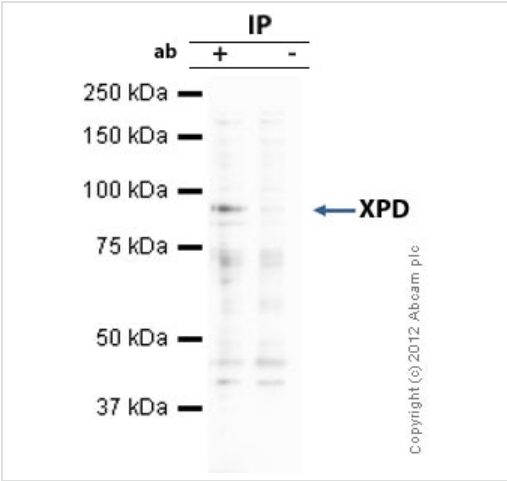
Images



Western blot - Anti-XPD antibody [4G2-2A6] (ab54676)

XPD antibody (ab54676) at 1ug/lane + HeLa cell lysate at 25ug/lane.

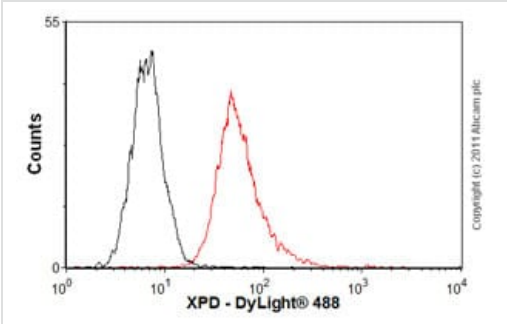
This image was generated using the ascites version of the product.



Immunoprecipitation - Anti-XPD antibody [4G2-2A6] (ab54676)

XPD was immunoprecipitated using 0.5mg Hela whole cell extract, 10µg of Mouse monoclonal to XPD and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70^{o}C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab54676.
Secondary: Goat polyclonal to mouse IgG light chain specific (HRP) at 1/5000 dilution.
Band: 150kDa: SMC1; Non specific - 41 and 42kDa: We are unsure as to the identity of this extra band.

This image was generated using the ascites version of the product.



Flow Cytometry - Anti-XPD antibody [4G2-2A6] (ab54676)

Overlay histogram showing HeLa cells stained with ab54676 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab54676, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (**ab91353**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of

>5,000 events was performed.

This image was generated using the ascites version of the product.

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

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