


## Product datasheet

# Anti-DDB2 antibody ab175409

6 Images

### Overview

<b>Product name</b>	Anti-DDB2 antibody
<b>Description</b>	Rabbit polyclonal to DDB2
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ICC/IF, IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Human <b>Predicted to work with:</b> Cow 
<b>Immunogen</b>	Recombinant full length protein corresponding to Human DDB2 aa 1-427. Sequence:

```
MAPKKRPETQKTSEMLRPRNKRSRSPLELEPEAKKLCAG  
GSGPSRRCDG  
DCLWVGLAGPQILPPCRSIVRTLHQHKLGRASWPSVQQG  
LQQSFLHTLDS  
YRILQKAAPFDRRATSLAWHPHPSTVAVGSKGGDIMLWN  
FGIKDKPTFI  
KGIGAGGSITGLKFNPLNTNQFYASSMEGTTRLQDFKGNIL  
RVFASSDTI  
NIWFCSLDVSASSRMVVTGDNVGNVILLNMDGKELWNLR  
MHKKKVTHVAL  
NPCCDWFLATASVDQTVKIWDLRQVRGKASFLYSLPHRH  
PVNAACFSPDG  
ARLLTTDQKSEIRVYSASQWDCPLGLIPHPHRHFQHLTPIK  
AAWHPRYNL  
IVVGRYPDPNFKSCTPYELRTIDVFDGNSGKMMCQLYDPE  
SSGISSLNEF NPMGDTLASAMGYHILWSQEEARTRK
```

Database link: [Q92466](#)

 [Run BLAST with](#)

 [Run BLAST with](#)

**Positive control** HeLa and A431 cell extracts.

### General notes

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

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: 49% PBS, 50% Glycerol
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab175409 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
ICC/IF		Use at an assay dependent concentration.
IHC-P		1/50 - 1/200. <b>ab171870</b> - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/500 - 1/2000. Predicted molecular weight: 48 kDa.

## Target

<b>Function</b>	Required for DNA repair. Binds to DDB1 to form the UV-damaged DNA-binding protein complex (the UV-DDB complex). The UV-DDB complex may recognize UV-induced DNA damage and recruit proteins of the nucleotide excision repair pathway (the NER pathway) to initiate DNA repair. The UV-DDB complex preferentially binds to cyclobutane pyrimidine dimers (CPD), 6-4 photoproducts (6-4 PP), apurinic sites and short mismatches. Also appears to function as the substrate recognition module for the DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complex DDB1-CUL4-ROC1 (also known as CUL4-DDB-ROC1 and CUL4-DDB-RBX1). The DDB1-CUL4-ROC1 complex may ubiquitinate histone H2A, histone H3 and histone H4 at sites of UV-induced DNA damage. The ubiquitination of histones may facilitate their removal from the nucleosome and promote subsequent DNA repair. The DDB1-CUL4-ROC1 complex also ubiquitinates XPC, which may enhance DNA-binding by XPC and promote NER. Isoform D1 and isoform D2 inhibit UV-damaged DNA repair.
<b>Tissue specificity</b>	Ubiquitously expressed; with highest levels in corneal endothelium and lowest levels in brain. Isoform D1 is highly expressed in brain and heart. Isoform D2, isoform D3 and isoform D4 are

weakly expressed.

### Pathway

Protein modification; protein ubiquitination.

### Involvement in disease

Defects in DDB2 are a cause of xeroderma pigmentosum complementation group E (XP-E) [MIM:278740]; also known as xeroderma pigmentosum V (XP5). XP-E is a rare human autosomal recessive disease characterized by solar sensitivity, high predisposition for developing cancers on areas exposed to sunlight and, in some cases, neurological abnormalities.

### Sequence similarities

Belongs to the WD repeat DDB2/WDR76 family.  
Contains 5 WD repeats.

### Domain

The DWD box is required for interaction with DDB1.

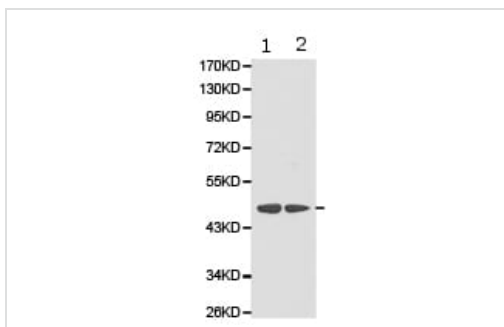
### Post-translational modifications

Phosphorylation by ABL1 negatively regulate UV-DDB activity.  
Ubiquitinated by CUL4A in response to UV irradiation. Ubiquitination appears to both impair DNA-binding and promotes ubiquitin-dependent proteolysis. Degradation of DDB2 at sites of DNA damage may be a prerequisite for their recognition by XPC and subsequent repair. CUL4A-mediated degradation appears to be promoted by ABL1.

### Cellular localization

Nucleus. Accumulates at sites of DNA damage following UV irradiation.

## Images



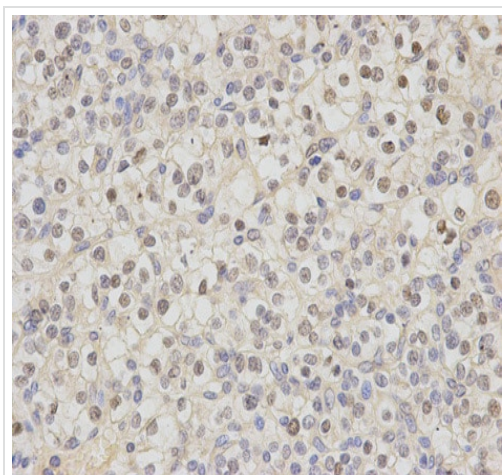
Western blot - Anti-DDB2 antibody (ab175409)

**All lanes :** Anti-DDB2 antibody (ab175409) at 1/500 dilution

**Lane 1 :** HeLa cell extract

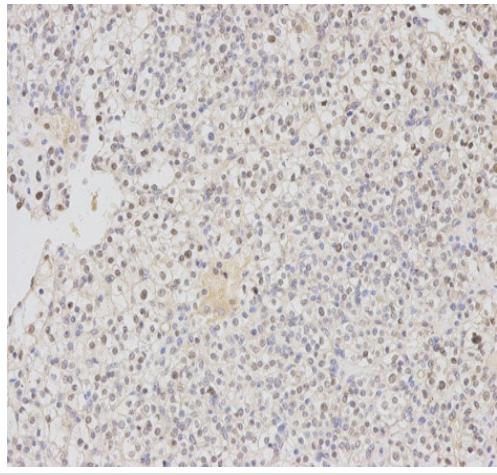
**Lane 2 :** A431 cell extract

**Predicted band size:** 48 kDa



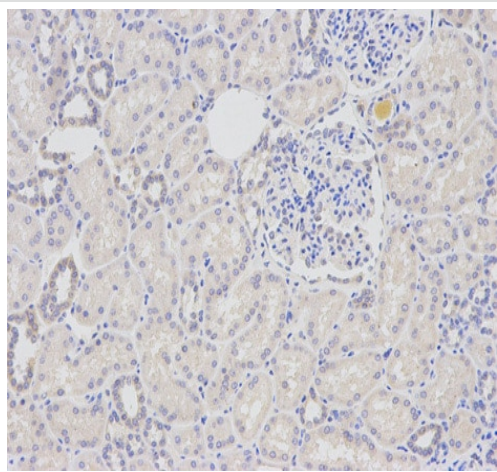
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney cancer tissue labelling DDB2 with ab175409 at 1/200. Magnification: 400x.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDB2 antibody (ab175409)



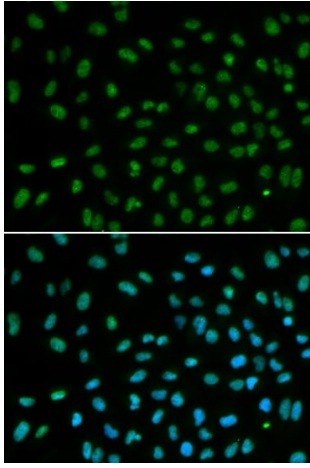
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney cancer tissue labelling DDB2 with ab175409 at 1/200. Magnification: 200x.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDB2 antibody (ab175409)



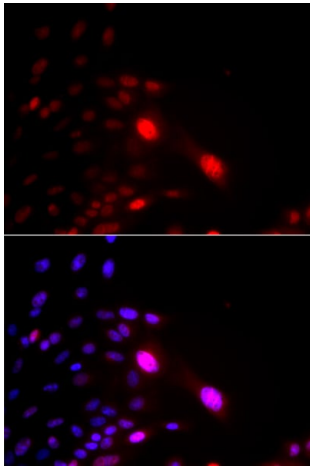
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling DDB2 with ab175409 at 1/200. Magnification: 200x.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDB2 antibody (ab175409)



Immunocytochemistry/Immunofluorescence analysis of MCF7 cells using ab175409. Blue DAPI for nuclear staining.

Immunocytochemistry/ Immunofluorescence - Anti-DDB2 antibody (ab175409)



Immunofluorescence analysis of U2OS cell using ab175409. Blue: DAPI for nuclear staining. DNA damage by a UV-A laser.

Immunocytochemistry/ Immunofluorescence - Anti-DDB2 antibody (ab175409)

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