abcam

Product datasheet

Anti-DDB1 antibody [EPR6089] ab109027

Recombinant RabMAb

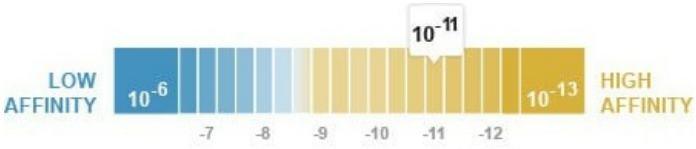
21 References 6 Images

Overview

Product name	Anti-DDB1 antibody [EPR6089]
Description	Rabbit monoclonal [EPR6089] to DDB1
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB, IHC-P **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	HepG2, HeLa, NIH3T3, and Human platelet lysates, Human breast tissue. This antibody gave a positive result when used in the following formaldehyde fixed cell lines: UV-treated HeLa
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Dissociation constant (K_D)	$K_D = 8.40 \times 10^{-11}$ M



Learn more about K_D

Storage buffer	pH: 7.20 Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR6089
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109027 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		1/100.
WB		1/50000 - 1/200000. Detects a band of approximately 130 kDa (predicted molecular weight: 127 kDa).
IHC-P		1/100 - 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Application notes Is unsuitable for Flow Cyt.

Target

Function Required for DNA repair. Binds to DDB2 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 a component of numerous distinct DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complexes which mediate the ubiquitination and subsequent proteasomal degradation of target proteins. The functional specificity of the DCX E3 ubiquitin-protein ligase complex is determined by the variable substrate recognition component recruited by DDB1. DCX(DDB2) (also known as DDB1-CUL4-ROC1, CUL4-DDB-ROC1 and CUL4-DDB-RBX1) 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. DCX(DDB2) also ubiquitinates XPC, which may enhance DNA-binding by XPC and promote NER. DCX(DTL) plays a role in PCNA-dependent polyubiquitination of CDT1 and MDM2-dependent ubiquitination of TP53 in response to radiation-induced DNA damage and during DNA replication. DCX(ERCC8) (the CSA complex) plays a role in transcription-coupled repair (TCR). May also play a role in ubiquitination of CDKN1B/p27kip when associated with CUL4 and SKP2.

Pathway Protein modification; protein ubiquitination.

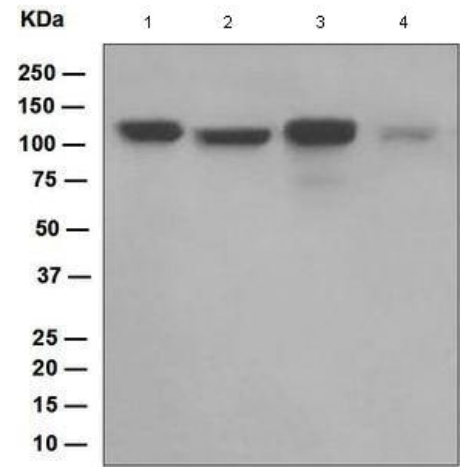
Sequence similarities Belongs to the DDB1 family.

Post-translational Ubiquitinated by CUL4A. Subsequently degraded by ubiquitin-dependent proteolysis.

modifications

Cellular localization	Cytoplasm. Nucleus. Primarily cytoplasmic. Translocates to the nucleus following UV irradiation and subsequently accumulates at sites of DNA damage.

Images



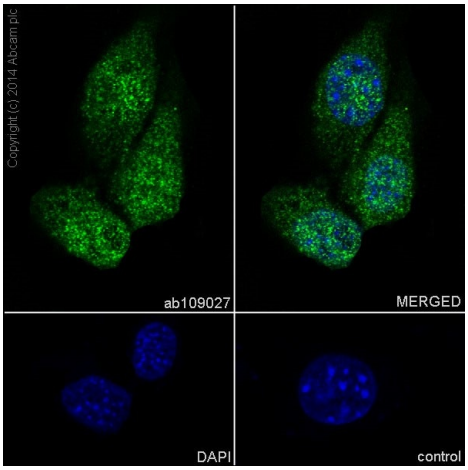
Western blot - Anti-DDB1 antibody [EPR6089] (ab109027)

All lanes : Anti-DDB1 antibody [EPR6089] (ab109027) at 1/50000 dilution

Lane 1 : HepG2 cell lysate
Lane 2 : HeLa cell lysate
Lane 3 : NIH3T3 cell lysate
Lane 4 : Human platelet lysate

Lysates/proteins at 10 µg per lane.

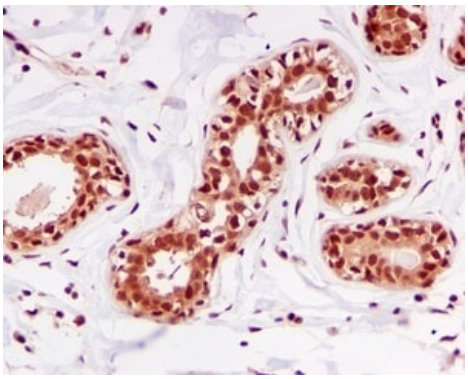
Predicted band size: 127 kDa



Immunocytochemistry/ Immunofluorescence - Anti-DDB1 antibody [EPR6089] (ab109027)

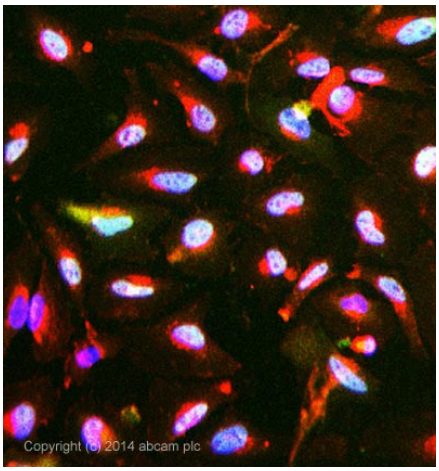
Immunocytochemistry analysis of NIH/3T3 (mouse embryonic fibroblast) cells labeling DDB1 with ab109027 at 1/250 (8.9 µg/mL). Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% tritonX-100. **ab150077** AlexaFluor®488 Goat anti-Rabbit at 1/1000 (2 µg/mL) was used as the secondary antibody. DAPI (blue) was used as nuclear counterstain.

Confocal image showing nuclear and cytoplasmic staining in NIH/3T3 cells.



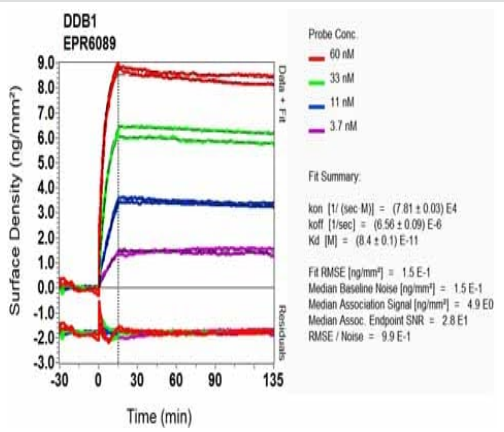
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DDB1 antibody [EPR6089] (ab109027)

Immunohistochemical analysis of paraffin-embedded Human breast tissue using ab109027 at a dilution of 1/100. Antigen retrieval was heat mediated before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-DDB1 antibody [EPR6089] (ab109027)

ab109027 stained UV-treated HeLa cells. The cells were 4% formaldehyde fixed for 10 minutes at room temperature and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1hour at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab109027 at 1/100 dilution) overnight at +4°C. The secondary antibody (pseudo-colored green) was **ab150081** used at a 1/1000 dilution for 1hour at room temperature. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1hour at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1hour at room temperature.

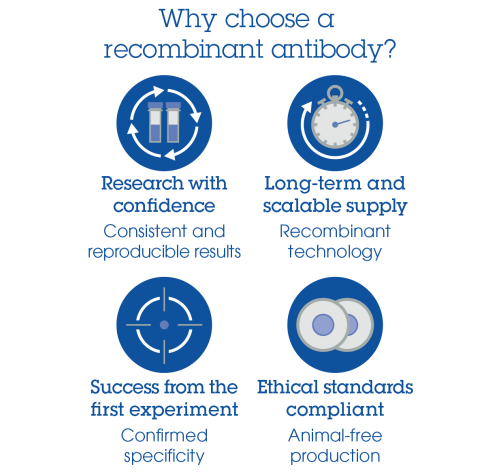


OI-RD Scanning - Anti-DDB1 antibody [EPR6089] (ab109027)

Equilibrium disassociation constant (K_D)

Learn more about K_D

Click here to learn more about K_D



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