

Rabbit DDB2 Polyclonal Antibody | anti-DDB2 antibody

DDB2 Antibody

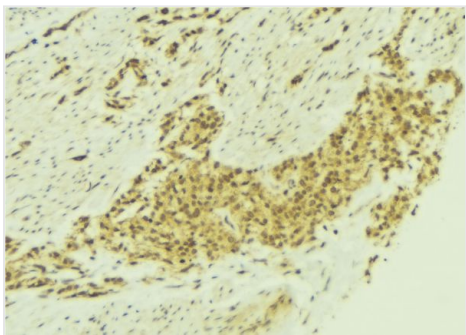
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA326423	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

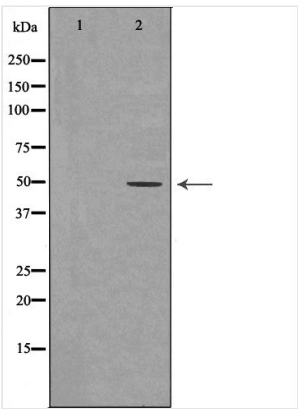
DDB2; Polyclonal Antibody; DDB2 Antibody; damage-specific DNA binding protein 2; Damage-specific DNA-binding protein 2; DDB p48 subunit; Ddb2; DDB2_HUMAN; DDBb; DNA damage-binding protein 2; UV-damaged DNA-binding protein 2; UV-DDB 2; Xeroderma pigmentosum group E protei; anti-DDB2 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	DDB2 antibody detects endogenous levels of total DDB2
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	427
Applicable Applications for anti-DDB2 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human DDB2
Subcellular Location	Nucleus. Accumulates at sites of DNA damage following UV irradiation.
Tissue Specificity	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.
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



IHC (Immunohistochemistry)
AAA326423 at 1/100 staining Human breast cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



WB (Western Blot)
Western blot analysis of extracts of MCF-7, using DDB2 antibody. The lane on the left is treated with the antigen-specific peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-DDB2 antibody

Description: Damaged DNA-Binding Protein (DDB) consists of a 127 kDa subunit (DDB-1) and a 48 kDa subunit (DDB-2) that contribute to the formation of the UV-damaged DNA-binding protein complex (UV-DDB) (1-3). In conjunction with CUL4A and ROC-1, the UV-DDB complex forms an E3 ubiquitin ligase that recognizes a broad spectrum of DNA lesions such as cyclobutane pyrimidine dimers, 6-4 photoproducts, apurinic sites and short mismatches. The complex polyubiquitinates components of the nucleotide excision repair pathway (4-6). Loss of DDB activity has been identified in a subset of xerodermapigmentosum complementation group E (XP-E) patients and has been linked to the deficient repair of cyclobutane pyrimidine dimers in cells derived from these patients (7-10).

Function: 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.

Subunit Structure: Component of the UV-DDB complex which includes DDB1 and DDB2. The UV-DDB complex interacts with monoubiquitinated histone H2A and binds to XPC via the DDB2 subunit. Component of the DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complex DDB1-CUL4-ROC1 (also known as CUL4-DDB-ROC1 and CUL4-DDB-RBX1), which includes CUL4A or CUL4B, DDB1, DDB2 and RBX1. DDB2 may function as the substrate recognition module within this complex. The DDB1-CUL4-ROC1 complex may associate with the COP9 signalosome, and this inhibits the E3 ubiquitin-protein ligase activity of the complex. A large number of other DCX complexes may also exist in which an alternate substrate targeting subunit replaces DDB2. These targeting subunits are generally known as DCAF (DDB1-and CUL4-associated factor) or CDW (CUL4-DDB1-associated WD40-repeat) proteins. Isoform D1 and isoform D2 do not interact 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. Ubiquitinated, leading to proteasomal degradation, and deubiquitinated by USP24.

Similarity: The DWD box is required for interaction with DDB1. Interblade loops of the WD repeat region mediate most of the interaction with DNA. A hairpin between blades 5 and 6 inserts into DNA minor groove and mediates recognition of lesions and separation of the damaged and undamaged strands. Belongs to the WD repeat DDB2/WDR76 family.

NCBI AND UNIPROT INFORMATION

NCBI GI # 4557515

NCBI GeneID	1643
NCBI Accession #	NP_000098.1
NCBI GenBank Nucleotide #	NM_000107.2
UniProt Accession #	Q92466 ; Q76E54 ; Q76E55 ; Q76E56 ; Q76E57 ; B2R875
Molecular Weight	Observed: 48 kDa Predicted: 48 kDa
NCBI Official Full Name	DNA damage-binding protein 2 isoform WT
NCBI Official Synonym Full Names	damage specific DNA binding protein 2
NCBI Official Symbol	DDB2
NCBI Official Synonym Symbols	XPE; DDBB; UV-DDB2
NCBI Protein Information	DNA damage-binding protein 2
UniProt Protein Name	DNA damage-binding protein 2
UniProt Gene Name	DDB2
UniProt Synonym Gene Names	DDBb; UV-DDB 2

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/polyclonal/ddb2-antibody-immunohistochemistry-western-blot-elisa/326423>