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Anti-p127-DDB1 (internal) (RABBIT) Antibody

DDB1 Antibody
Catalog # ASR3722

Specification

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human, Mouse**
Clonality	**Polyclonal**
Application	**WB, IHC, E, IP, I, LCI**
Application Note	**Anti-DDB1 antibody reacts with human and mouse DDB1 tested by western blot and immunoprecipitation. The antibody immunoprecipitates in vitro translated protein and protein from cell lysates (using HeLa, NIH-3T3, and others). Coimmunoprecipitation of related proteins has not been tested. A 127.0 kDa band corresponding to human DDB1 is detected. Most cell lines expressing DDB1 can be used as a positive control. Researchers should determine optimal titers for other applications.**
Physical State	**Liquid (sterile filtered)**
Immunogen	**DDB1 antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids 198-213 of Human DDB1 (internal) coupled to KLH.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Additional Information

Gene ID 1642

Other Names
1642

Purity
Anti-DDB1 is monospecific antiserum processed by delipidation and defibrination followed by sterile filtration. This product reacts with human and mouse DDB1. Cross reactivity with DDB1 from other sources is not known.

Storage Condition
Store Anti-DDB1 at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Protein Information

Name DDB1

Synonyms XAP1

Function
Protein, which is both involved in DNA repair and protein ubiquitination, as part of the UV-DDB complex and DCX (DDB1-CUL4-X-box) complexes, respectively (PubMed:14739464, PubMed:15448697, PubMed:16260596, PubMed:16407242, PubMed:16407252, PubMed:16482215, PubMed:16940174, PubMed:17079684). Core component of the UV-DDB complex (UV-damaged DNA-binding protein complex), a complex that recognizes UV- induced DNA damage and recruit proteins of the nucleotide excision repair pathway (the NER pathway) to initiate DNA repair (PubMed:15448697, PubMed:16260596, PubMed:16407242, PubMed:16940174). The UV-DDB complex preferentially binds to cyclobutane pyrimidine dimers (CPD), 6-4 photoproducts (6-4 PP), apurinic sites and short mismatches (PubMed:15448697, PubMed:16260596, PubMed:16407242, PubMed:16940174). Also functions 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 (PubMed:14739464, PubMed:16407252, PubMed:16482215, PubMed:17079684, PubMed:18332868, PubMed:18381890, PubMed:19966799, PubMed:22118460, PubMed:25043012, PubMed:25108355, PubMed:28886238). The functional specificity of the DCX E3 ubiquitin-protein ligase complex is determined by the variable substrate recognition component recruited by DDB1 (PubMed:14739464, PubMed:16407252, PubMed:16482215, PubMed:17079684, PubMed:18332868, PubMed:18381890, PubMed:19966799,

PubMed:22118460, PubMed:25043012, PubMed:25108355). 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 (PubMed:16473935, PubMed:16678110, PubMed:17041588, PubMed:18593899). The ubiquitination of histones may facilitate their removal from the nucleosome and promote subsequent DNA repair (PubMed:16473935, PubMed:16678110, PubMed:17041588, PubMed:18593899). DCX(DDB2) also ubiquitinates XPC, which may enhance DNA-binding by XPC and promote NER (PubMed:15882621). 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 (PubMed:17041588). DCX(ERCC8) (the CSA complex) plays a role in transcription-coupled repair (TCR) (PubMed:12732143, PubMed:32355176, PubMed:38316879). The DDB1-CUL4A-DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1 (PubMed:26431207). DDB1-mediated CRY1 degradation promotes FOXO1 protein stability and FOXO1-mediated gluconeogenesis in the liver (By similarity). By acting on TET dioxygenses, essential for oocyte maintenance at the primordial follicle stage, hence essential for female fertility (By similarity). Maternal factor required for proper zygotic genome activation and genome reprogramming (By similarity).

Cellular Location
Cytoplasm. Nucleus. Note=Primarily cytoplasmic (PubMed:10777491, PubMed:11673459). Translocates to the nucleus following UV irradiation and subsequently accumulates at sites of DNA damage (PubMed:10777491, PubMed:11673459). More concentrated in nuclei than in cytoplasm in germinal vesicle (GV) stage oocytes, zygotes and the 2-cell stage, but distributed in the cytoplasm at the MII-stage oocytes (By similarity). {ECO:0000250|UniProtKB:Q3U1J4, ECO:0000269|PubMed:10777491, ECO:0000269|PubMed:11673459}

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Images

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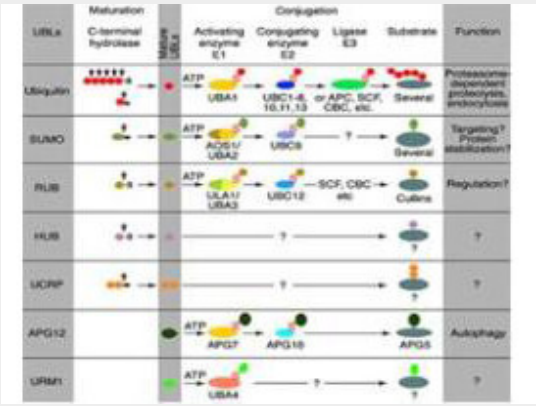

Most modifiers mature by proteolytic processing from inactive precursors (a; amino acid). Arrowheads point to the cleavage sites. Ubiquitin is expressed either as polyubiquitin or as a fusion with ribosomal proteins. Conjugation requires activating (E1) and conjugating (E2) enzymes that form thiolesters (S) with the modifiers. Modification of cullins by RUB involves SCF(SKP1/cullin-1/F-box protein) /CBC(cullin-2/elongin B/elonginC) -like E3 enzymes that are also involved in ubiquitination. In contrast to ubiquitin, the UBLs do not seem to form multi-UBL chains. UCRP(ISG15) resembles two ubiquitin moieties linked head-to-tail. Whether HUB1 functions as a modifier is currently unclear. APG12 and URM1 are distinct from the other modifiers because they are unrelated in sequence to ubiquitin. Data contributed by S.Jentsch.

Anti-p127-DDB1 (internal) (RABBIT) Antibody - Background

DDB1 is also known as damage-specific DNA binding protein 1, DDB p127 subunit, DDBa, UV-damaged DNA-binding protein 1, UV-DDB 1, Xeroderma pigmentosum group E complementing protein, XPCe, X-associated protein 1 and XAP-1. The DDB1 gene encodes the large subunit (p127) of DNA damage-binding protein, which is a heterodimer, composed of a large and a small subunit (p48 DDB2). This nuclear protein functions in nucleotide-excision repair resulting from UV-damaged DNA by binding to pyrimidine dimers. Its defective activity causes the repair defect in the patients with xeroderma pigmentosum complementation group E (XPE). 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. DDB1 antibody is involved in Epigenetic and Cancer / DNA Damage research.