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Goat Anti-DDB1 Antibody

Peptide-affinity purified goat antibody

Catalog # AF1310a

Specification

Goat Anti-DDB1 Antibody - Product Information

Application	**WB, E**
Primary Accession	Q16531
Other Accession	NP_001914, 1642, 64470 (rat)
Reactivity	**Human, Mouse, Pig**
Predicted	**Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**126968**

Goat Anti-DDB1 Antibody - Additional Information

Gene ID 1642

Other Names
DNA damage-binding protein 1, DDB p127 subunit, DNA damage-binding protein a, DDBa, Damage-specific DNA-binding protein 1, HBV X-associated protein 1, XAP-1, UV-damaged DNA-binding factor, UV-damaged DNA-binding protein 1, UV-DDB 1, XPE-binding factor, XPE-BF, Xeroderma pigmentosum group E-complementing protein, XPCe, DDB1, XAP1

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-DDB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-DDB1 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}

Goat Anti-DDB1 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

Goat Anti-DDB1 Antibody - Images

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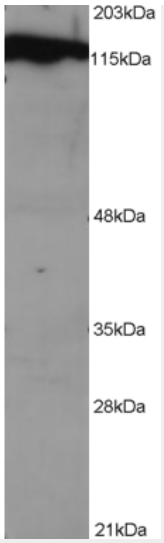
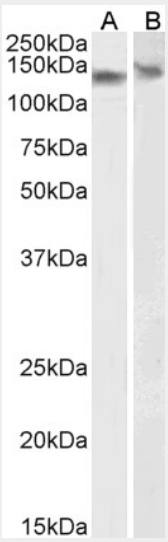


AF1310a (1 µg/ml) staining of NSO lysate (1E5 cells per lane). Detected by western blot using chemiluminescence.



Antibody (1µg/ml) staining of HeLa (A), HepG2 (B) and Jurkat (C) lysate (35µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-DDB1 Antibody - Background

This gene encodes the large subunit of DNA damage-binding protein which is a heterodimer composed of a large and a small subunit. This protein functions in nucleotide-excision repair. Its defective activity causes the repair defect in the patients with xeroderma pigmentosum complementation group E (XPE). However, it remains for mutation analysis to demonstrate whether the defect in XPE patients is in this gene or the gene encoding the small subunit. In addition, Best vitelliform mascular dystrophy is mapped to the same region as this gene on 11q, but no sequence alternations of this gene are demonstrated in Best disease patients.

Goat Anti-DDB1 Antibody - References

Damaged DNA-binding protein 1 (DDB1) interacts with Cdh1 and modulates the function of APC/CCdh1. Lv XB, et al. J Biol Chem, 2010 Jun 11. PMID 20395298.
The functions of the HIV1 protein Vpr and its action through the DCAF1.DDB1.Cullin4 ubiquitin ligase. Casey L, et al. Cytokine, 2010 Jul. PMID 20347598.
CRL4s: the CUL4-RING E3 ubiquitin ligases. Jackson S, et al. Trends Biochem Sci, 2009 Nov. PMID

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Candidate biomarkers of response to an experimental cancer drug identified through a large-scale RNA interference genetic screen. Mullenders J, et al. Clin Cancer Res, 2009 Sep 15. PMID 19723642.
REDD1, an inhibitor of mTOR signalling, is regulated by the CUL4A-DDB1 ubiquitin ligase. Katiyar S, et al. EMBO Rep, 2009 Aug. PMID 19557001.