

DDB1 Antibody (Y660) Blocking Peptide
Synthetic peptide
Catalog # BP4780d**Specification**

DDB1 Antibody (Y660) Blocking Peptide - Product InformationPrimary Accession [Q16531](#)**DDB1 Antibody (Y660) Blocking Peptide - 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

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DDB1 Antibody (Y660) Blocking Peptide - 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:15448697, PubMed:14739464, PubMed:16260596, PubMed:16482215, PubMed:17079684, PubMed:16407242, PubMed:16407252, PubMed:16940174). 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:<a

[15448697](http://www.uniprot.org/citations/15448697), PubMed: [16260596](http://www.uniprot.org/citations/16260596), PubMed: [16407242](http://www.uniprot.org/citations/16407242), PubMed: [16940174](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15448697), PubMed: [16260596](http://www.uniprot.org/citations/16260596), PubMed: [16407242](http://www.uniprot.org/citations/16407242), PubMed: [16940174](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/14739464), PubMed: [16407252](http://www.uniprot.org/citations/16407252), PubMed: [16482215](http://www.uniprot.org/citations/16482215), PubMed: [17079684](http://www.uniprot.org/citations/17079684), PubMed: [25043012](http://www.uniprot.org/citations/25043012), PubMed: [25108355](http://www.uniprot.org/citations/25108355), PubMed: [18332868](http://www.uniprot.org/citations/18332868), PubMed: [18381890](http://www.uniprot.org/citations/18381890), PubMed: [19966799](http://www.uniprot.org/citations/19966799), PubMed: [22118460](http://www.uniprot.org/citations/22118460), PubMed: [28886238](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/14739464), PubMed: [16407252](http://www.uniprot.org/citations/16407252), PubMed: [16482215](http://www.uniprot.org/citations/16482215), PubMed: [17079684](http://www.uniprot.org/citations/17079684), PubMed: [25043012](http://www.uniprot.org/citations/25043012), PubMed: [25108355](http://www.uniprot.org/citations/25108355), PubMed: [18332868](http://www.uniprot.org/citations/18332868), PubMed: [18381890](http://www.uniprot.org/citations/18381890), PubMed: [19966799](http://www.uniprot.org/citations/19966799), PubMed: [22118460](http://www.uniprot.org/citations/22118460)). 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: [16678110](http://www.uniprot.org/citations/16678110), PubMed: [17041588](http://www.uniprot.org/citations/17041588), PubMed: [16473935](http://www.uniprot.org/citations/16473935), PubMed: [18593899](http://www.uniprot.org/citations/18593899)). The ubiquitination of histones may facilitate their removal from the nucleosome and promote subsequent DNA repair (PubMed: [16678110](http://www.uniprot.org/citations/16678110), PubMed: [17041588](http://www.uniprot.org/citations/17041588), PubMed: [16473935](http://www.uniprot.org/citations/16473935), PubMed: [18593899](http://www.uniprot.org/citations/18593899)). DCX(DDB2) also ubiquitinates XPC, which may enhance DNA-binding by XPC and promote NER (PubMed: [15882621](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/17041588)). DCX(ERCC8) (the CSA complex) plays a role in transcription-coupled repair (TCR) (PubMed: [12732143](http://www.uniprot.org/citations/12732143)). The DDB1-CUL4A-DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1 (PubMed: [26431207](http://www.uniprot.org/citations/26431207)).

DDB1-mediated CRY1 degradation promotes FOXO1 protein stability and FOXO1-mediated gluconeogenesis in the liver (By similarity). By acting on TET dioxygenases, 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}

DDB1 Antibody (Y660) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

DDB1 Antibody (Y660) Blocking Peptide - Images**DDB1 Antibody (Y660) Blocking Peptide - Background**

DDB1 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 macular 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.

DDB1 Antibody (Y660) Blocking Peptide - References

Jackson, S., et al. Trends Biochem. Sci. 34(11):562-570(2009)Mullenders, J., et al. Clin. Cancer Res. 15(18):5811-5819(2009)Katiyar, S., et al. EMBO Rep. 10(8):866-872(2009)Leung-Pineda, V., et al. Cancer Res. 69(6):2630-2637(2009)