10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-DDB1 Monoclonal Antibody

Catalog # ABO14704

Product Information

Application	WB, IHC, IF, ICC, IP
Primary Accession	Q16531
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-DDB1 Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

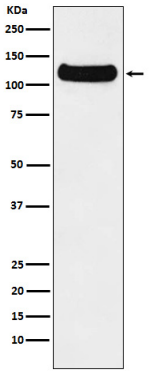
Gene ID	1642
Other Names	DNA damage-binding protein 1, DDB p127 subunit, DNA damage-binding protein a, DDBa, Damage-specific DNA-binding protein 1, HBV X-associated protein 1, XAP-1, UV-damaged DNA-binding factor, UV-damaged DNA-binding protein 1, UV-DDB 1, XPE-binding factor, XPE-BF, Xeroderma pigmentosum group E-complementing protein, XPCe, DDB1, XAP1
Calculated MW	126968
Application Details	WB 1:10000-1:50000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: AFAH-4
Immunogen	A synthesized peptide derived from human DDB1
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	DDB1

Synonyms	XAP1
Function	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, PubMed:25970626). Core component of the UV-DDB complex (UV-damaged DNA- binding protein complex), a complex that recognizes UV-induced DNA damage and recruits 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). 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, PubMed:41565821). 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 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}

Images



Western blot analysis of DDB1 expression in HeLa cell lysate.

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