DDB2 Blocking Peptide – The purity is >90%,tested by HPLC and MS. Purity

PRODUCT OVERVIEW

Product Name	DDB2, Blocking Peptide
Full Product Name	DDB2 Blocking Peptide
Product Gene Name	DDB2 blocking peptide
Product Synonym Names	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
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 10 mg/ml.
Purity/Purification	The purity is >90%,tested by HPLC and MS.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	DDB2 peptide (MBS9626030) is used for blocking the activity of DDB2 antibody (MBS9607314)
OMIM	phenotype 600811
Supply Chain Verification	Manufactured in a lab with traceable raw materials manufactured on site. Coordinated product portfolio of antibodies, pairs, conjugates, recombinant proteins, and immunoassay materials available, please inquire.
Notes	For phospho antibody, we provide phospho peptide (0.5mg) and non-phospho peptide (0.5mg)
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for DDB2 blocking peptide	Blocking/Control
Related Product Information for DDB2 blocking peptide	Blocking peptides are peptides that bind specifically to the target antibody and block antibody binding. These peptide usually contains the epitope recognized by the antibody. Antibodies bound to the blocking peptide no longer bind to the epitope on the target protein. This mechanism is useful when non-specific binding is an issue, for example, in Western blotting (immunoblot) and immunohistochemistry (IHC). By comparing the staining from the blocked antibody versus the antibody alone, one can see which staining is specific; Specific binding will be absent from the western blot or immunostaining performed with the neutralized antibody.
Other Notes	Small volumes of DDB2 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for DDB2 purchase	MBS9626030 is a blocking peptide targeting DDB2.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for DDB2. It may not necessarily be applicable to this product.

NCBI GI #	4557515
NCBI GeneID	1643
NCBI Accession #	NP_000098.1
UniProt Primary Accession #	Q92466
UniProt Secondary Accession #	Q76E54; Q76E55; Q76E56; Q76E57; B2R875
UniProt Related Accession #	Q92466

GenBank Nucleotide #	NM_000107.2
NCBI Official Full Name	Homo sapiens damage-specific DNA binding protein 2, 48kDa (DDB2), mRNA
NCBI Official Synonym Full Names	damage-specific DNA binding protein 2, 48kDa
NCBI Official Symbol	DDB2
NCBI Official Synonym Symbols	DDBB; UV-DDB2
UniProt Protein Name	DNA damage-binding protein 2
UniProt Synonym Protein Names	DDB p48 subunit; DDBb; Damage-specific DNA-binding protein 2; UV-damaged DNA-binding protein 2; UV-DDB 2
Protein Family	DNA damage-binding protein
UniProt Gene Name	DDB2
UniProt Synonym Gene Names	DDBb; UV-DDB 2
UniProt Entry Name	DDB2_HUMAN
NCBI Protein Information	DNA damage-binding protein 2; DDB p48 subunit; UV-DDB 2; UV-damaged DNA-binding protein 2; damage-specific DNA-binding protein 2; xeroderma pigmentosum group E protein
NCBI Summary for DDB2	This gene encodes a protein that is necessary for the repair of ultraviolet light-damaged DNA. This protein is the smaller subunit of a heterodimeric protein complex that participates in nucleotide excision repair, and this complex mediates the ubiquitylation of histones H3 and H4, which facilitates the cellular response to DNA damage. This subunit appears to be required for DNA binding. Mutations in this gene cause xeroderma pigmentosum complementation group E, a recessive disease that is characterized by an increased sensitivity to UV light and a high predisposition for skin cancer development, in some cases accompanied by neurological abnormalities. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2014]

UniProt Comments for DDB2	DDB2: 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. 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. Expression is induced in response to treatment with IR or UV and this requires p53/TP53 activity. 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. Belongs to the WD repeat DDB2/WDR76 family. 5 isoforms of the human protein are produced by alternative splicing. Protein type: DNA repair, damage Chromosomal Location of Human Ortholog: 11p12-p11 Cellular Component: nucleoplasm; protein complex; cell junction Molecular Function: protein binding; DNA binding; damaged DNA binding; ubiquitin-protein ligase activity Biological Process: protein autoubiquitination; protein polyubiquitination; nucleotide-excision repair; pyrimidine dimer repair; nucleotide-excision repair, DNA damage removal; DNA repair; response to UV Disease: Xeroderma Pigmentosum, Complementation Group E
Research Articles on DDB2	**1.** DDB2 protein expression is low in ovarian tumor cells.
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