

DDB1 (E-11): sc-376860



The Power to Question

BACKGROUND

Damaged DNA binding protein (DDB) is a heterodimer composed of two subunits, p127 and p48, which are designated DDB1 and DDB2, respectively. The DDB heterodimer is involved in repairing DNA damaged by ultraviolet light. Specifically, DDB, also designated UV-damaged DNA binding protein (UV-DDB), xeroderma pigmentosum group E binding factor (XPE-BF) and hepatitis B virus X-associated protein 1 (XAP-1), binds to damaged cyclobutane pyrimidine dimers (CPDs). Mutations in the DDB2 gene are implicated as causes of xeroderma pigmentosum group E, an autosomal recessive disease in which patients are defective in nucleotide excision DNA repair. XPE is characterized by hypersensitivity of the skin to sunlight with a high frequency of skin cancer as well as neurologic abnormalities. The hepatitis B virus (HBV) X protein interacts with DDB1, which may mediate HBx transactivation.

REFERENCES

1. Dualan, R., et al. 1995. Chromosomal localization and cDNA cloning of the genes (DDB1 and DDB2) for the p127 and p48 subunits of a human damage-specific DNA binding protein. *Genomics* 29: 62-69.
2. Nichols, A.F., et al. 1996. Mutations specific to the xeroderma pigmentosum group E Ddb-phenotype. *J. Biol. Chem.* 271: 24317-24320.
3. Stohr, H., et al. 1998. Refined mapping of the gene encoding the p127 kDa UV-damaged DNA-binding protein (DDB1) within 11q12-q13.1 and its exclusion in Best's vitelliform macular dystrophy. *Eur. J. Hum. Genet.* 6: 400-405.

CHROMOSOMAL LOCATION

Genetic locus: DDB1 (human) mapping to 11q12.2; Ddb1 (mouse) mapping to 19 A.

SOURCE

DDB1 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 9-45 near the N-terminus of DDB1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DDB1 (E-11) is available conjugated to agarose (sc-376860 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376860 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376860 PE), fluorescein (sc-376860 FITC), Alexa Fluor® 488 (sc-376860 AF488), Alexa Fluor® 546 (sc-376860 AF546), Alexa Fluor® 594 (sc-376860 AF594) or Alexa Fluor® 647 (sc-376860 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376860 AF680) or Alexa Fluor® 790 (sc-376860 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376860 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

DDB1 (E-11) is recommended for detection of DDB1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

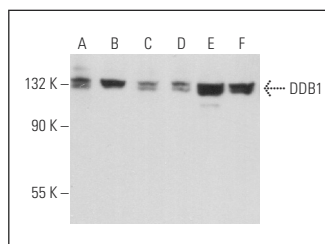
DDB1 (E-11) is also recommended for detection of DDB1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for DDB1 siRNA (h): sc-37797, DDB1 siRNA (m): sc-37798, DDB1 shRNA Plasmid (h): sc-37797-SH, DDB1 shRNA Plasmid (m): sc-37798-SH, DDB1 shRNA (h) Lentiviral Particles: sc-37797-V and DDB1 shRNA (m) Lentiviral Particles: sc-37798-V.

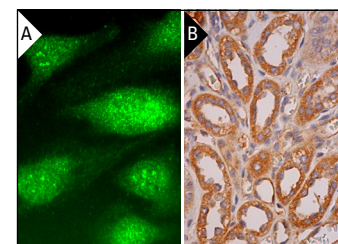
Molecular Weight of DDB1: 127 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



DDB1 (E-11): sc-376860. Western blot analysis of DDB1 expression in Hep G2 (A), NIH/3T3 (B), HeLa (C), Jurkat (D), Raji (E) and K-562 (F) whole cell lysates.



DDB1 (E-11): sc-376860. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Kido, K., et al. 2020. AirID, a novel proximity biotinylation enzyme, for analysis of protein-protein interactions. *Elife* 9: e54983.
2. Yamanaka, S., et al. 2021. Thalidomide and its metabolite 5-hydroxythalidomide induce teratogenicity via the cereblon neosubstrate PLZF. *EMBO J.* 40: e105375.
3. Deng, J., et al. 2022. CRL4-DCAF8L2 E3 ligase promotes ubiquitination and degradation of BARD1. *Biochem. Biophys. Res. Commun.* 611: 107-113.
4. Jorda, R., et al. 2022. 3,5,7-substituted pyrazolo[4,3-d]pyrimidine inhibitors of cyclin-dependent kinases and cyclin K degraders. *J. Med. Chem.* 65: 8881-8896.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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