

DDB2 (H-127): sc-25368

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.

CHROMOSOMAL LOCATION

Genetic locus: DDB2 (human) mapping to 11p11.2; Ddb2 (mouse) mapping to 2 E1.

SOURCE

DDB2 (H-127) is a rabbit polyclonal antibody raised against amino acids 301-427 of DDB2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DDB2 (H-127) is recommended for detection of DDB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DDB2 (H-127) is also recommended for detection of DDB2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for DDB2 siRNA (h): sc-37799, DDB2 siRNA (m): sc-37800, DDB2 shRNA Plasmid (h): sc-37799-SH, DDB2 shRNA Plasmid (m): sc-37800-SH, DDB2 shRNA (h) Lentiviral Particles: sc-37799-V and DDB2 shRNA (m) Lentiviral Particles: sc-37800-V.

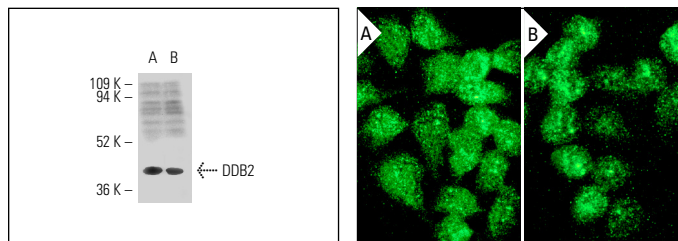
Molecular Weight of DDB2: 48 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or UV-treated HeLa nuclear extract.

STORAGE

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

DATA



DDB2 (H-127): sc-25368. Western blot analysis of DDB2 expression in untreated HeLa (A) and UV-treated HeLa (B) nuclear extracts.

DDB2 (H-127): sc-25368. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (A) and nuclear localization after UV exposure (B).

SELECT PRODUCT CITATIONS

1. Lovejoy, C.A., et al. 2006. DDB1 maintains genome integrity through regulation of Cdt1. *Mol. Cell. Biol.* 26: 7977-7990.
2. Ohtake, F., et al. 2007. Dioxin receptor is a ligand-dependent E3 ubiquitin ligase. *Nature* 446: 562-566.
3. Kattan, Z., et al. 2008. Damaged DNA binding protein 2 plays a role in breast cancer cell growth. *PLoS ONE* 3: e2002.
4. Minig, V., et al. 2009. Identification of DDB2 protein as a transcriptional regulator of constitutive SOD2 gene expression in human breast cancer cells. *J. Biol. Chem.* 284: 14165-14176.
5. Ennen, M., et al. 2011. Regulation of the high basal expression of the manganese superoxide dismutase gene in aggressive breast cancer cells. *Free Radic. Biol. Med.* 50: 1771-1779.
6. Liu, J., et al. 2012. Tap63γ enhances nucleotide excision repair through transcriptional regulation of DNA repair genes. *DNA Repair* 11: 167-176.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **DDB2 (2246C4a): sc-81246**, our highly recommended monoclonal alternative to DDB2 (H-127).