SANTA CRUZ BIOTECHNOLOGY, INC.

DDB1 (8): sc-136180

SANTA CRUZ BIOTECHNOLOGY

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.
4. Lin, G.Y., et al. 1998. The V protein of the paramyxovirus SV5 interacts with damage-specific DNA binding protein. Virology 249: 189-200.
5. Nichols, A.F., et al. 2000. Human damage-specific DNA-binding protein p48. Characterization of XPE mutations and regulation following UV irradiation. J. Biol. Chem. 275: 21422-21428.
6. Zolezzi, F., et al. 2000. Studies of the murine DDB1 and DDB2 genes. Gene 245: 151-219.
7. Amundson, S.A., et al. 2000. Identification of potential mRNA biomarkers in peripheral blood lymphocytes for human exposure to ionizing radiation. Radiat. Res. 154: 342-346.

CHROMOSOMAL LOCATION

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

SOURCE

DDB1 (8) is a mouse monoclonal antibody raised against amino acids 739-935 of DDB1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol, and 0.04% stabilizer protein.

APPLICATIONS

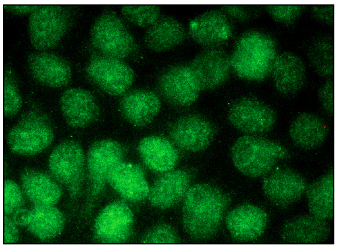
DDB1 (8) is recommended for detection of DDB1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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: Human Platelet Extract: sc-363773 or HeLa + UV cell lysate: sc-2221.

DATA



DDB1 (8): sc-136180. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2011. Cullin 4B protein ubiquitin ligase targets peroxiredoxin III for degradation. J. Biol. Chem. 286: 32344-32354.
2. Lyu, L., et al. 2016. Unfolded-protein response-associated stabilization of $p27^{Cdkn1b}$ interferes with lens fiber cell denucleation, leading to cataract. FASEB J. 30: 1087-1095.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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