SANTA CRUZ BIOTECHNOLOGY, INC.

DDB1 (m): 293T Lysate: sc-119698

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: 24317-2420.
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.
8. Wentz, M.J., et al. 2000. Dissociation of DDB1-binding and transactivation properties of the hepatitis B virus X protein. Virus Res. 68: 87-92.
9. Wakasugi, M., et al. 2001. Damaged DNA-binding protein DDB stimulates the excision of cyclobutane pyrimidine dimers *in vitro* in concert with XPA and replication Protein A. J. Biol. Chem. 276: 15434-15440.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Ddb1 (mouse) mapping to 19 A.

PRODUCT

DDB1 (m): 293T Lysate represents a lysate of mouse DDB1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

DDB1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive DDB1 antibodies. Recommended use: 10-20 µl per lane.

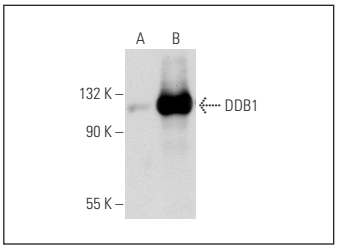
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DDB1 (B-1): sc-137142 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse DDB1 expression in DDB1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

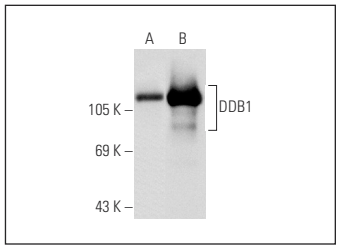
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



DDB1 (B-1): sc-137142. Western blot analysis of DDB1 expression in non-transfected: sc-117752 (**A**) and mouse DDB1 transfected: sc-119698 (**B**) 293T whole cell lysates.



DDB1 (C-2): sc-137132. Western blot analysis of DDB1 expression in non-transfected: sc-117752 (**A**) and mouse DDB1 transfected: sc-119698 (**B**) 293T whole cell lysates.

RESEARCH USE

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