SANTA CRUZ BIOTECHNOLOGY, INC.

GTBP (H-141): sc-10798

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The finding that mutations in DNA mismatch repair genes are associated with hereditary nonpolyposis colorectal cancer (HNPCC) has resulted in considerable interest in the understanding of the mechanism of DNA mismatch repair. Initially, inherited mutations in the MSH2 and MLH1 homologs of the bacterial DNA mismatch repair genes MutS and MutL were demonstrated at high frequency in HNPCC and were shown to be associated with microsatellite instability. A member of the mismatch repair family, GTBP (also designated MSH6), is a MSH2-related protein that binds to DNA containing G/T mismatches. Findings suggest that the mismatch-binding factor in human cells is composed of a heterodimer of GTBP and MSH2.

CHROMOSOMAL LOCATION

Genetic locus: MSH6 (human) mapping to 2p16.3; Msh6 (mouse) mapping to 17 E4.

SOURCE

GTBP (H-141) is a rabbit polyclonal antibody raised against amino acids 1220-1360 mapping at the C-terminus of GTBP (G/T binding protein) 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

GTBP (H-141) is recommended for detection of GTBP 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), 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).

GTBP (H-141) is also recommended for detection of GTBP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GTBP siRNA (h): sc-35528, GTBP siRNA (m): sc-35529, GTBP shRNA Plasmid (h): sc-35528-SH, GTBP shRNA Plasmid (m): sc-35529-SH, GTBP shRNA (h) Lentiviral Particles: sc-35528-V and GTBP shRNA (m) Lentiviral Particles: sc-35529-V.

Molecular Weight of GTBP: 160 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, A-431 nuclear extract: sc-2122 or SW480 nuclear extract: sc-2155.

RESEARCH USE

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

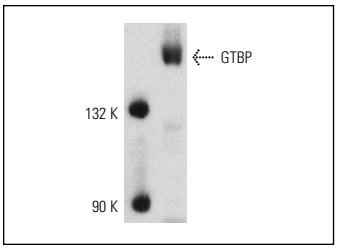
PROTOCOLS

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

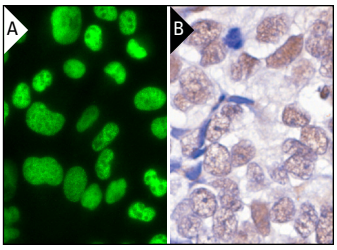
STORAGE

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

DATA



GTBP (H-141): sc-10798. Western blot analysis of GTBP expression in HeLa nuclear extract.



GTBP (H-141): sc-10798. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization. Kindly provided by Yang Xiang, Ph.D., Division of Newborn Medicine, Boston Children's Hospital, Cell Biology Department, Harvard Medical School (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

1. Lucero, H., et al. 2003. Novel localization of the DNA-PK complex in lipid rafts: a putative role in the signal transduction pathway of the ionizing radiation response. J. Biol. Chem. 278: 22136-22143.
2. Mastrocola, A.S., et al. 2010. Lynch syndrome-associated mutations in MSH2 alter DNA repair and checkpoint response functions *in vivo*. Hum. Mutat. 31: E1699-E1708.
3. Arora, S., et al. 2010. Downregulation of XPF-ERCC1 enhances cisplatin efficacy in cancer cells. DNA Repair 9: 745-753.
4. Bianchi, F., et al. 2011. An intronic mutation in MLH1 associated with familial colon and breast cancer. Fam. Cancer 10: 27-35.
5. Shahi, A., et al. 2011. Mismatch-repair protein MSH6 is associated with Ku70 and regulates DNA double-strand break repair. Nucleic Acids Res. 39: 2130-2143.
6. Ranjit, S., et al. 2011. AID binds cooperatively with UNG and Msh2-Msh6 to Ig switch regions dependent upon the AID C terminus. J. Immunol. 187: 2464-2475.
7. Gannon, A.M., et al. 2012. MutSb and histone deacetylase complexes promote expansions of trinucleotide repeats in human cells. Nucleic Acids Res. 40: 10324-10333.