

GTBP (E-8): sc-137015

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 (E-8) is a mouse monoclonal 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GTBP (E-8) is available conjugated to agarose (sc-137015 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-137015 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137015 PE), fluorescein (sc-137015 FITC), Alexa Fluor® 488 (sc-137015 AF488), Alexa Fluor® 546 (sc-137015 AF546), Alexa Fluor® 594 (sc-137015 AF594) or Alexa Fluor® 647 (sc-137015 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137015 AF680) or Alexa Fluor® 790 (sc-137015 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GTBP (E-8) is recommended for detection of GTBP 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).

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.

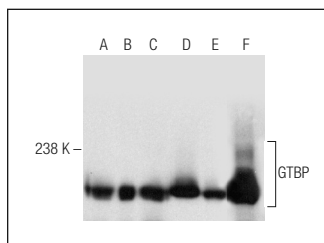
Molecular Weight of GTBP: 160 kDa.

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

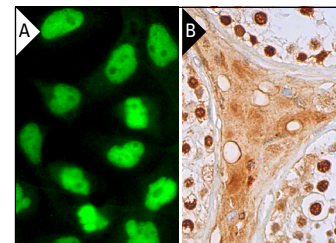
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GTBP (E-8): sc-137015. Western blot analysis of GTBP expression in HeLa (A), A-431 (B), SW480 (C), K-562 (D), DU 145 (E) and Jurkat (F) nuclear extracts.



GTBP (E-8): sc-137015. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts and nuclear and cytoplasmic staining of Leydig cells (B).

SELECT PRODUCT CITATIONS

- Niu, W., et al. 2019. Correlation between microsatellite instability and RAS gene mutation and stage III colorectal cancer. *Oncol. Lett.* 17: 332-338.
- Sakellariou, D., et al. 2022. MutSβ regulates G₄-associated telomeric R-loops to maintain telomere integrity in ALT cancer cells. *Cell Rep.* 39: 110602.
- Acurzio, B., et al. 2022. The mismatch-repair proteins MSH2 and MSH6 interact with the imprinting control regions through the ZFP57-KAP1 complex. *Epigenetics Chromatin* 15: 27.

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.

PROTOCOLS

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