

# GTBP (N-20): sc-1243



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 *mut<sub>S</sub>* and *mut<sub>L</sub>* 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 160 kDa 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.

## REFERENCES

1. Peltomäki, P., et al. 1993. Genetic mapping of a locus predisposing to human colorectal cancer. *Science* 260: 810-812.
2. Palombo, F., et al. 1994. Mismatch repair and cancer. *Nature* 367: 417-418.
3. Bronner, C.E., et al. 1994. Mutation in the DNA mismatch repair gene homologue hMLH1 is associated with hereditary non-polyposis colon cancer. *Nature* 368: 258-261.
4. Papadopoulos, N., et al. 1994. Mutation of a *mut<sub>L</sub>* homolog in hereditary colon cancer. *Science* 263: 1625-1629.

## CHROMOSOMAL LOCATION

Genetic locus: MSH6 (human) mapping to 2p16.3.

## SOURCE

GTBP (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GTBP 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.

Blocking peptide available for competition studies, sc-1243 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GTBP (N-20) is recommended for detection of GTBP of 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).

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

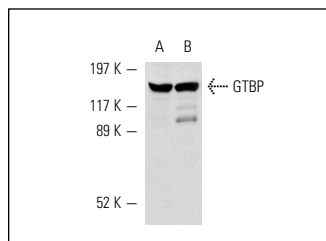
Molecular Weight of GTBP: 160 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, SW480 nuclear extract: sc-2155 or DU 145 nuclear extract: sc-24960.

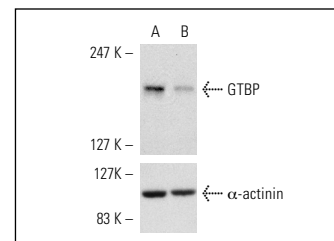
## STORAGE

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

## DATA



GTBP (N-20): sc-1243. Western blot analysis of GTBP expression in HeLa (A) and A-431 (B) nuclear extracts.



GTBP siRNA (h): sc-35528. Western blot analysis of GTBP expression in non-transfected control (A) and GTBP siRNA transfected (B) HeLa cells. Blot probed with GTBP (N-20): sc-1243.  $\alpha$ -actinin (H-2): sc-17829 used as specificity and loading control.

## SELECT PRODUCT CITATIONS

1. Clark, A.B., et al. 1999. Functional analysis of human MUTS $\alpha$  and MUTS $\beta$  complexes in yeast. *Nucleic Acids Res.* 27: 736-742.
2. Chang, D.K., et al. 2000. Steady-state regulation of the human DNA mismatch repair system. *J. Biol. Chem.* 275: 18424-18431.
3. Wang, Y., et al. 2000. BASC, a super complex of BRCA1-associated proteins involved in the recognition and repair of aberrant DNA structures. *Genes Dev.* 14: 927-939.
4. Lee, S.H., et al. 2003. Microsatellite instability and suppressed DNA repair enzyme expression in rheumatoid arthritis. *J. Immunol.* 170: 2214-2220.
5. Anderson, L.A., et al. 2003. Regulation of RelA (p65) function by the large subunit of replication factor C. *Mol. Cell. Biol.* 23: 721-732.
6. Tajima, A., et al. 2004. The mismatch repair complex hMutS $\alpha$  recognizes 5-fluorouracil-modified DNA: implications for chemosensitivity and resistance. *Gastroenterology* 127: 1678-1684.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **GTBP (E-8): sc-137015** or **GTBP (F-1): sc-271979**, our highly recommended monoclonal alternatives to GTBP (N-20).