SANTA CRUZ BIOTECHNOLOGY, INC.

MTBP (B-5): sc-137201

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

p53 is a critical coordinator of a wide range of stress responses. To facilitate a rapid response to stress, p53 is produced constitutively, but is negatively regulated by MDM2. MTBP (also designated MDM2BP or MDM2 transformed 3T3 cell double minute 2, p53 binding protein (mouse) binding protein) is a growth regulator that modulates the activity of MDM2 towards itself and p53, and thereby contributes to MDM2-dependent p53 homeostasis in cells. Specifically, MTBP promotes MDM2-mediated ubiquitination and degradation of p53 and also MDM2 stabilization. MTBP transcript is most abundant in thymus, testis and ovary.

CHROMOSOMAL LOCATION

Genetic locus: MTBP (human) mapping to 8q24.12; Mtbp (mouse) mapping to 15 D1.

SOURCE

MTBP (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 656-692 near the C-terminus of MTBP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MTBP (B-5) is available conjugated to agarose (sc-137201 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137201 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137201 PE), fluorescein (sc-137201 FITC), Alexa Fluor® 488 (sc-137201 AF488), Alexa Fluor® 546 (sc-137201 AF546), Alexa Fluor® 594 (sc-137201 AF594) or Alexa Fluor® 647 (sc-137201 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137201 AF680) or Alexa Fluor® 790 (sc-137201 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-137201 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MTBP (B-5) is recommended for detection of MTBP 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). MTBP (B-5) is also recommended for detection of MTBP in additional species, including equine, canine and porcine.

Suitable for use as control antibody for MTBP siRNA (h): sc-61080, MTBP siRNA (m): sc-61081, MTBP shRNA Plasmid (h): sc-61080-SH, MTBP shRNA Plasmid (m): sc-61081-SH, MTBP shRNA (h) Lentiviral Particles: sc-61080-V and MTBP shRNA (m) Lentiviral Particles: sc-61081-V.

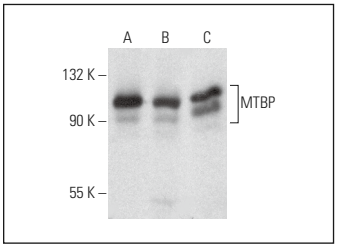
Molecular Weight of MTBP: 104 kDa.

Positive Controls: F9 cell lysate: sc-2245, Neuro-2A whole cell lysate: sc-364185 or K-562 whole cell lysate: sc-2203.

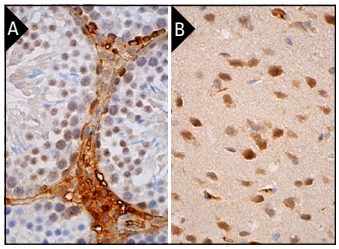
STORAGE

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

DATA



MTBP (B-5): sc-137201. Western blot analysis of MTBP expression in F9 (**A**), Neuro-2A (**B**) and AT-3 (**C**) whole cell lysates.



MTBP (B-5): sc-137201. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis tissue showing nuclear staining of cells in seminiferous ducts and nuclear and cytoplasmic staining of Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing nuclear and cytoplasmic staining of neuronal cells and cytoplasmic staining of glial cells and endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Grieb, B.C., et al. 2014. Oncogenic protein MTBP interacts with Myc to promote tumorigenesis. Cancer Res. 74: 3591-3602.
2. Bi, Q., et al. 2015. MTBP inhibits migration and metastasis of hepatocellular carcinoma. Clin. Exp. Metastasis 32: 301-311.
3. Ranjan, A., et al. 2018. MTBP inhibits the Erk1/2-Elk-1 signaling in hepatocellular carcinoma. Oncotarget 9: 21429-21443.
4. Chirackal Manavalan, A.P., et al. 2019. CDK12 controls G_1/S progression by regulating RNAPII processivity at core DNA replication genes. EMBO Rep. 20: e47592.
5. Song, Y., et al. 2019. MTBP regulates cell survival and therapeutic sensitivity in TP53 wildtype glioblastomas. Theranostics 9: 6019-6030.
6. Kumagai, A. and Dunphy, W.G. 2020. Binding of the treslin-MTBP complex to specific regions of the human genome promotes the initiation of DNA replication. Cell Rep. 32: 108178.
7. Wittig, K.A., et al. 2021. The CRL4DTL E3 ligase induces degradation of the DNA replication initiation factor TICRR/TRESLIN specifically during S phase. Nucleic Acids Res. 49: 10507-10523.
8. Zonderland, G., et al. 2022. The TRESLIN-MTBP complex couples completion of DNA replication with S/G_2 transition. Mol. Cell 82: 3350-3365.e7.
9. Ranjan, A., et al. 2023. Characterization of an MTBP hypomorphic allele in a diethylnitrosamine-induced liver carcinogenesis model. Cancers 15: 4596.

RESEARCH USE

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