SANTA CRUZ BIOTECHNOLOGY, INC.

MDM2 (SMP14): sc-965

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MDM, also designated murine double minute-2 was initially identified as an oncogene in a murine transformation system. The MDM2 protein functions to bind p53 and block p53-mediated transactivation of cotransfected reporter constructs. The MDM2 gene is amplified in a high percentage of human sarcomas that retain wildtype p53 and tumor cells that overexpress MDM2 can tolerate high levels of p53 expression. These findings argue that MDM2 overexpression represents at least one mechanism by which p53 function can be abrogated during tumorigenesis. The MDM2 Antibody (SMP14) is therefore an important reagent for cancer research. p53 is the most commonly mutated gene in human cancer identified to date. Expression of p53 leads to inhibition of cell growth by preventing progression of cells from G_1 to S phase of the cell cycle. Most importantly, p53 functions to cause arrest of cells in the G_1 phase of the cell cycle following any exposure of cells to DNA-damaging agents.

REFERENCES

1. Kastan, M.B., et al. 1991. Participation of p53 protein in the cellular response to DNA damage. Cancer Res. 51: 6304-6311.
2. Kastan, M.B., et al. 1992. A mammalian cell cycle checkpoint pathway utilizing p53 and GADD 45 is defective in ataxia-telangiectasia. Cell 71: 587-597.

CHROMOSOMAL LOCATION

Genetic locus: MDM2 (human) mapping to 12q15; Mdm2 (mouse) mapping to 10 D2.

SOURCE

MDM2 (SMP14) is a mouse monoclonal antibody raised against amino acids 154-167 of MDM2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-965 X, 200 µg/0.1 ml.

MDM2 (SMP14) is available conjugated to agarose (sc-965 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-965 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-965 PE), fluorescein (sc-965 FITC), Alexa Fluor® 488 (sc-965 AF488), Alexa Fluor® 546 (sc-965 AF546), Alexa Fluor® 594 (sc-965 AF594) or Alexa Fluor® 647 (sc-965 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-965 AF680) or Alexa Fluor® 790 (sc-965 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, MDM2 (SMP14) is available conjugated to biotin (sc-965 B), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

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

APPLICATIONS

MDM2 (SMP14) is recommended for detection of MDM2, MDM2 p60 cleavage product and p53-MDM2 complexes 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

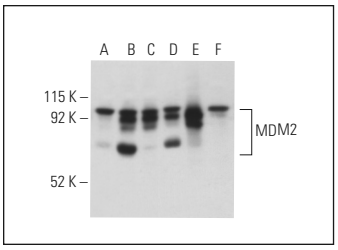
Suitable for use as control antibody for MDM2 siRNA (h): sc-29394, MDM2 siRNA (m): sc-37263, MDM2 siRNA (r): sc-63266, MDM2 shRNA Plasmid (h): sc-29394-SH, MDM2 shRNA Plasmid (m): sc-37263-SH, MDM2 shRNA Plasmid (r): sc-63266-SH, MDM2 shRNA (h) Lentiviral Particles: sc-29394-V, MDM2 shRNA (m) Lentiviral Particles: sc-37263-V and MDM2 shRNA (r) Lentiviral Particles: sc-63266-V.

MDM2 (SMP14) X TransCruz antibody is recommended for ChIP assays.

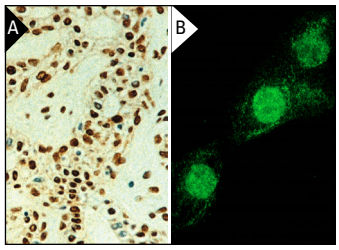
Molecular Weight of MDM2/MDM2 cleavage product: 90/60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or MOLT-4 cell lysate: sc-2233.

DATA



MDM2 (SMP14): sc-965. Western blot analysis of MDM2 expression in HeLa (**A**), Jurkat (**B**), MOLT-4 (**C**), NTERA-2 cl.D1 (**D**), U-698-M (**E**) and RT-4 (**F**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



MDM2 (SMP14): sc-965. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue (**A**). Immunofluorescence staining of methanol-fixed rat embryo fibroblasts showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Picksley, S.M., et al. 1994. Immunochemical analysis of the interaction of p53 with MDM2;—fine mapping of the MDM2 binding site on p53 using synthetic peptides. Oncogene 9: 2523-2529.
2. Ni, W., et al. 2020. USP7 mediates pathological hepatic *de novo* lipogenesis through promoting stabilization and transcription of ZNF638. Cell Death Dis. 11: 843.
3. Latif, A.L., et al. 2021. BRD4-mediated repression of p53 is a target for combination therapy in AML. Nat. Commun. 12: 241.
4. Yi, Y., et al. 2022. Ribosomal proteins regulate 2-cell-stage transcriptome in mouse embryonic stem cells. Stem Cell Reports 18: 463-474.
5. Szwarc, M.M., et al. 2023. FAM193A is a positive regulator of p53 activity. Cell Rep. 42: 112230.

RESEARCH USE

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