SANTA CRUZ BIOTECHNOLOGY, INC.

MDM2 (D-12): sc-5304

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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. The MDM2 (murine double minute-2) protein was initially identified as an oncogene in a murine transformation system. MDM2 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 wt 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.

CHROMOSOMAL LOCATION

Genetic locus: MDM2 (human) mapping to 12q15.

SOURCE

MDM2 (D-12) is a mouse monoclonal antibody raised against amino acids 100-320 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.

MDM2 (D-12) is available conjugated to agarose (sc-5304 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-5304 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-5304 PE), fluorescein (sc-5304 FITC), Alexa Fluor® 488 (sc-5304 AF488), Alexa Fluor® 546 (sc-5304 AF546), Alexa Fluor® 594 (sc-5304 AF594) or Alexa Fluor® 647 (sc-5304 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-5304 AF680) or Alexa Fluor® 790 (sc-5304 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MDM2 (D-12) is recommended for detection of MDM2 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of MDM2: 90 kDa.

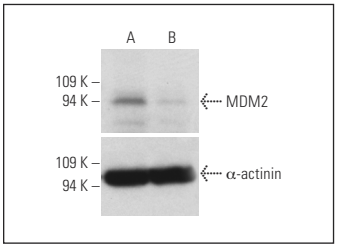
Molecular Weight of MDM2 cleavage product: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, U-2 OS cell lysate: sc-2295 or A-673 cell lysate: sc-2414.

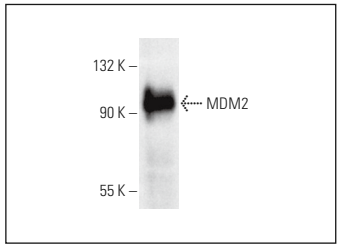
STORAGE

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

DATA



MDM2 siRNA (h): sc-29394. Western blot analysis of MDM2 expression in non-transfected control (**A**) and MDM2 siRNA transfected (**B**) Jurkat cells. Blot probed with MDM2 (D-12): sc-5304. α-actinin (H-2): sc-17829 used as specificity and loading control.



MDM2 (D-12): sc-5304. Western blot analysis of MDM2 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

1. Pepper, C., et al. 2003. Leukemic and non-leukemic lymphocytes from patients with Li Fraumeni syndrome demonstrate loss of p53 function, Bcl-2 family dysregulation and intrinsic resistance to conventional chemotherapeutic drugs but not flavopiridol. Cell Cycle 2: 53-58.
2. Tin, A.S., et al. 2014. Essential role of the cancer stem/progenitor cell marker nucleostemin for indole-3-carbinol anti-proliferative responsiveness in human breast cancer cells. BMC Biol. 12: 72.
3. Soares, J., et al. 2015. Oxazoloisoindolinones with *in vitro* antitumor activity selectively activate a p53-pathway through potential inhibition of the p53-MDM2 interaction. Eur. J. Pharm. Sci. 66: 138-147.
4. Bradbury, R., et al. 2016. MDM2 and PSMA play inhibitory roles in metastatic breast cancer cells through regulation of matrix metalloproteinases. Anticancer Res. 36: 1143-1151.
5. Worrall, C., et al. 2017. Unbalancing p53/MDM2/IGF-1R axis by MDM2 activation restrains the IGF-1-dependent invasive phenotype of skin melanoma. Oncogene 36: 3274-3286.
6. Li, Y., et al. 2018. PSMD2 regulates breast cancer cell proliferation and cell cycle progression by modulating p21 and p27 proteasomal degradation. Cancer Lett. 430: 109-122.
7. Zhang, Y., et al. 2019. CDS-1548 induces apoptosis in HeLa cells by activating caspase 3. Oncol. Lett. 18: 1881-1887.
8. Li, Y., et al. 2020. Scutellarein inhibits the development of colon cancer via CDC4-mediated RAGE ubiquitination. Int. J. Mol. Med. 45: 1059-1072.
9. Xie, N., et al. 2021. MicroRNA-302s might regulate ARL4C-mediated gastric cancer progression via p53 signaling: bioinformatics analysis and experiments validation. Onco Targets Ther. 14: 2541-2553.

RESEARCH USE

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