SANTA CRUZ BIOTECHNOLOGY, INC.

MDM2 (HDM2-323): sc-56154

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 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.

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 (HDM2-323) is a mouse monoclonal antibody raised against amino acids 389-402 of MDM2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MDM2 (HDM2-323) is recommended for detection of MDM2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

Molecular Weight of MDM2: 90 kDa.

Molecular Weight of MDM2 cleavage product: 60 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295, Saos-2 cell lysate: sc-2235 or Jurkat whole cell lysate: sc-2204.

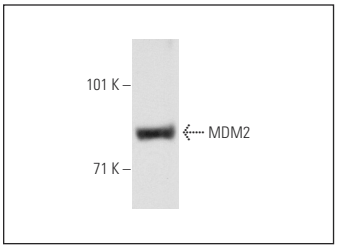
RESEARCH USE

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

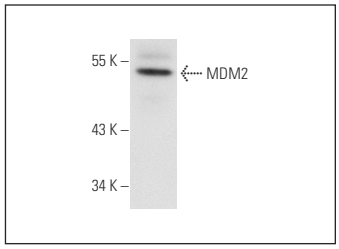
STORAGE

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

DATA



MDM2 (HDM2-323): sc-56154. Western blot analysis of MDM2 expression in Saos-2 whole cell lysate.



MDM2 (HDM2-323): sc-56154. Western blot analysis of MDM2 expression in U-2 OS whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2010. Negative regulation of HDM2 to attenuate p53 degradation by ribosomal protein L26. Nucleic Acids Res. 38: 6544-6554.
2. Zajkowicz, A. and Rusin, M. 2011. The activation of the p53 pathway by the AMP mimetic AICAR is reduced by inhibitors of the ATM or mTOR kinases. Mech. Ageing Dev. 132: 543-551.
3. Linda Messina, R., et al. 2012. Reactivation of P53 mutants by prima-1 in thyroid cancer cells. Int. J. Cancer 130: 2259-2270.
4. Huang, X., et al. 2013. XIAP inhibits autophagy via XIAP-MDM2-p53 signalling. EMBO J. 32: 2204-2216.
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7. Vasilaki, E., et al. 2016. Ras and TGF-β signaling enhance cancer progression by promoting the ΔNp63 transcriptional program. Sci. Signal. 9: ra84.
8. Putri, J.F., et al. 2017. Induction of senescence in cancer cells by 5'-Aza-2'-deoxycytidine: Bioinformatics and experimental insights to its targets. Comput. Biol. Chem. 70: 49-55.
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CONJUGATES

See **MDM2 (SMP14): sc-965** for MDM2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.