

MDM2 (SMP14): sc-965



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 G₁ to S phase of the cell cycle. Most importantly, p53 functions to cause arrest of cells in the G₁ 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 over-express 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; 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 IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-965 AC, 500 µg/0.25 ml agarose in 1 ml.

Available as TransCruz reagent for ChIP application, sc-965 X, 200 µg/0.1 ml.

Available as HRP conjugate for Western blotting, sc-965 HRP, 200 µg/1 ml.

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 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 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.

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

Molecular Weight of MDM2: 90 kDa.

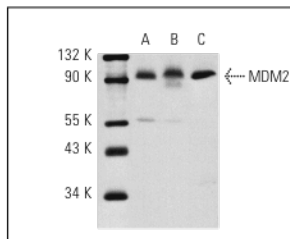
Molecular Weight of MDM2 cleavage product: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, U-2 OS cell lysate: sc-2295 or MCF7 whole cell lysate: sc-2206.

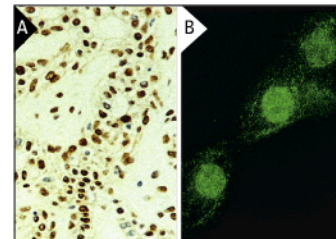
STORAGE

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

DATA



MDM2 (SMP14): sc-965. Western blot analysis of MDM2 expression in U-2 OS (A), A-673 (B) and RAW 264.7 (C) whole cell lysates.



Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue (A) and immunofluorescence staining of methanol-fixed rat embryo fibroblasts (B) showing nuclear localization.

SELECT PRODUCT CITATIONS

- Evans, S., et al. 2001. An alternatively spliced HDM2 product increases p53 activity by inhibiting HDM2. *Oncogene* 20: 4041-4049.
- Sotillo, R., et al. 2001. Wide spectrum of tumors in knock-in mice carrying a Cdk4 protein insensitive to INK4 inhibitors. *EMBO J.* 20: 6637-6647.
- Leng, R.P., et al. 2003. Pirh2, a p53-induced ubiquitin-protein ligase, promotes p53 degradation. *Cell* 112: 779-791.
- Willenbring, H., et al. 2008. Loss of p21 permits carcinogenesis from chronically damaged liver and kidney epithelial cells despite unchecked apoptosis. *Cancer Cell* 14: 59-67.
- Kim, J.W., et al. 2008. TIP60 represses transcriptional activity of p73β via an MDM2-bridged ternary complex. *J. Biol. Chem.* 283: 20077-20086.
- Miyamoto, N., et al. 2008. TIP60 is regulated by circadian transcription factor Clock and is involved in cisplatin resistance. *J. Biol. Chem.* 283: 18218-18226.
- Amaral, J.D., et al. 2010. Ursodeoxycholic acid modulates the ubiquitin-proteasome degradation pathway of p53. *Biochem. Biophys. Res. Commun.* E-Published.
- Nie, J., et al. 2010. Smad ubiquitylation regulatory factor 1/2 (Smurf1/2) promotes p53 degradation by stabilizing the E3 ligase MDM2. *J. Biol. Chem.* 285: 22818-22830.
- Scoumanne, A., et al. 2010. The cyclin-dependent kinase inhibitor p21 is regulated by RNA-binding protein PCBP4 via mRNA stability. *Nucleic Acids Res.* E-Published.
- Zhu, X.G., et al. 2010. Thyroid hormone receptors are tumor suppressors in a mouse model of metastatic follicular thyroid carcinoma. *Oncogene* 29: 1909-1919.
- Galli, F., et al. 2010. MDM2 and Fbw7 cooperate to induce p63 protein degradation following DNA damage and cell differentiation. *J. Cell Sci.* 123: 2423-2433.

RESEARCH USE

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