SANTA CRUZ BIOTECHNOLOGY, INC.

MAD1 (H-228): sc-67338

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell cycle progression is subject to arrest at the mitotic spindle assembly checkpoint in response to incorrect spindle fiber assembly. MAD1 and MAD2 (for mitotic arrest-deficient 1 and 2) are components of the mitotic spindle checkpoint. Incorrect spindle assembly in normal cells leads to mitotic arrest. MAD1 prevents the onset of anaphase until all chromosomes are aligned correctly at the metaphase plate and is crucial for anchoring MAD2L1 to the nuclear periphery. It also plays an important role in septum positioning. MAD1 can form a homodimer, but may also form a heterodimer with MAD2 to form the tetrameric MAD1L1-MAD2L1 core complex. MAD1 localizes primarily to the nucleus but, during mitosis, it moves from a nuclear distribution to the centrosome, to the spindle midzone and then on to the midbody. MAD1 activity is induced by BUB1 and the protein is hyperphosphorylated after mitotic spindle damage and/or in late S through M phase. Defects in the gene encoding for MAD1, MAD1L1, play a major role in the development and progression of various cancer types.

REFERENCES

1. Jones, N. 1990. Transcriptional regulation by dimerization: two sides to an incestuous relationship. Cell 61: 9-11.
2. Prendergast, G.C., et al. 1991. Association of Myn, the murine homolog of Max, with c-Myc stimulates methylation-sensitive DNA binding and Ras cotransformation. Cell 65: 395-407.
3. Dang, C.V., et al. 1991. Intracellular leucine zipper interactions suggest c-Myc hetero-oligomerization. Mol. Cell. Biol. 11: 954-962.
4. Blackwood, E.M. et al. 1991. Max: a helix-loop-helix zipper protein that forms a sequence-specific DNA-binding complex with Myc. Science 251: 1211-1217.
5. Amati, B., et al. 1992. Oncogenic activity of the c-Myc protein requires dimerization with Max. Cell 72: 233-245.
6. Mukherjee, B., et al. 1992. Myc family oncoproteins function through a common pathway to transform normal cells in culture: cross-interference by Max and transacting dominant mutants. Genes Dev. 6: 1480-1492.

CHROMOSOMAL LOCATION

Genetic locus: MAD1L1 (human) mapping to 7p22.3; Mad1l1 (mouse) mapping to 5 G2.

SOURCE

MAD1 (H-228) is a rabbit polyclonal antibody raised against amino acids 491-718 mapping at the C-terminus of MAD1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

MAD1 (H-228) is recommended for detection of MAD1 of human and, to a lesser extent, mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAD1 siRNA (h): sc-62577, MAD1 siRNA (m): sc-62578, MAD1 shRNA Plasmid (h): sc-62577-SH, MAD1 shRNA Plasmid (m): sc-62578-SH, MAD1 shRNA (h) Lentiviral Particles: sc-62577-V and MAD1 shRNA (m) Lentiviral Particles: sc-62578-V.

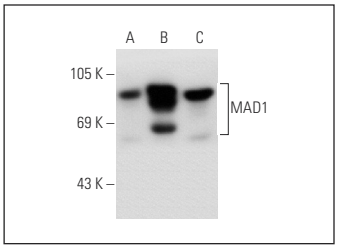
Molecular Weight of MAD1: 90 kDa.

Positive Controls: MAD1 (h2): 293T Lysate: sc-177505, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

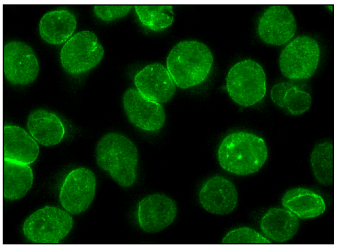
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MAD1 (H-228): sc-67338. Western blot analysis of MAD1 expression in non-transfected 293T: sc-117752 (**A**), human MAD1 transfected 293T: sc-177505 (**B**) and HeLa (**C**) whole cell lysates.



MAD1 (H-228): sc-67338. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **MAD1 (D-1): sc-166312** or **MAD1 (9B10): sc-47746**, our highly recommended monoclonal alternatives to MAD1 (H-228). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **MAD1 (D-1): sc-166312**.