SANTA CRUZ BIOTECHNOLOGY, INC.

MAD2 (C-9): sc-393188

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. MAD2 (for mitotic arrest-deficient) is a component of the mitotic spindle checkpoint. Cells with mutated MAD2 do not undergo mitotic arrest in response to incorrect spindle fiber assembly, which results in missegregation and eventual cell death. A breast carcinoma cell line with reduced MAD2 expression, T47D, was shown to complete mitosis in the presence of nocodazole, an inhibitor of mitotic spindle assembly. MAD2 is localized to unattached kinetochores during pro-meta-phase and disassociates upon spindle fiber attachment, indicating that MAD2 regulates kinetochore binding to the spindle fibers. Human MAD2 has also been shown to associate with Insulin receptor (IR), but not IGFIR, implicating MAD2 as a mediator for IR-specific signaling. MAD2B, a MAD2 homolog, is required for the execution of the mitotic checkpoint monitoring the kinetochore-spindle attachment process and if the process is not complete, MAD2B delays the onset of anaphase.

CHROMOSOMAL LOCATION

Genetic locus: MAD2L1 (human) mapping to 4q27; Mad2l1 (mouse) mapping to 6 C1.

SOURCE

MAD2 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 178-205 at the C-terminus of MAD2 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.

Blocking peptide available for competition studies, sc-393188 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MAD2 (C-9) is recommended for detection of MAD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

MAD2 (C-9) is also recommended for detection of MAD2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for MAD2 siRNA (h): sc-35837, MAD2 siRNA (m): sc-35838, MAD2 shRNA Plasmid (h): sc-35837-SH, MAD2 shRNA Plasmid (m): sc-35838-SH, MAD2 shRNA (h) Lentiviral Particles: sc-35837-V and MAD2 shRNA (m) Lentiviral Particles: sc-35838-V.

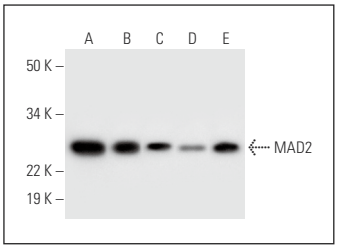
Molecular Weight of MAD2: 25 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, K-562 nuclear extract: sc-2130 or HeLa nuclear extract: sc-2120.

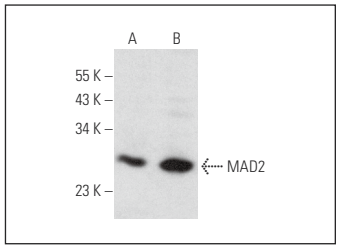
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MAD2 (C-9): sc-393188. Western blot analysis of MAD2 expression in Jurkat (**A**), K-562 (**B**), HeLa (**C**), BJAB (**D**) and MEG-01 (**E**) nuclear extracts.



MAD2 (C-9): sc-393188. Western blot analysis of MAD2 expression in Hep G2 (**A**) and MCF7 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhang, X., et al. 2016. Mps1 kinase regulates tumor cell viability via its novel role in mitochondria. Cell Death Dis. 7: e2292.
2. Maddalena, F., et al. 2017. TRAP1 protein signature predicts outcome in human metastatic colorectal carcinoma. Oncotarget 8: 21229-21240.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.