

# MAD2B (H-82): sc-292425

## 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, T-47D, was shown to complete mitosis in the presence of Nocodazole, an inhibitor of mitotic spindle assembly. MAD2 is localized to unattached kinetochores during pro-metaphase 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 IGF-IR, 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.

## REFERENCES

- Murray, A.W. 1992. Creative blocks: cell-cycle checkpoints and feedback controls. *Nature* 359: 599-604.
- Glotzer, M. 1996. Mitosis: don't get mad, get even. *Curr. Biol.* 6: 1592-1594.
- Li, Y., et al. 1996. Identification of a human mitotic checkpoint gene: hsMAD2. *Science* 274: 246-248.
- Chen, R.H., et al. 1996. Association of spindle assembly checkpoint component XMad2 with unattached kinetochores. *Science* 274: 242-246.
- O'Neill, T.J., et al. 1997. Interaction of MAD2 with the carboxyl-terminus of the Insulin receptor but not with the IGF-IR. Evidence for release from the Insulin receptor after activation. *J. Biol. Chem.* 272: 10035-10040.
- SWISS-PROT/TrEMBL (Q9UI95). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: MAD2L2 (human) mapping to 1p36.22; Mad2l2 (mouse) mapping to 4 E2.

## SOURCE

MAD2B (H-82) is a rabbit polyclonal antibody raised against amino acids 1-82 mapping at the N-terminus of MAD2B 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.

## 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.

## APPLICATIONS

MAD2B (H-82) is recommended for detection of MAD2B 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 (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MAD2B (H-82) is also recommended for detection of MAD2B in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for MAD2B siRNA (h): sc-106795, MAD2B siRNA (m): sc-149211, MAD2B shRNA Plasmid (h): sc-106795-SH, MAD2B shRNA Plasmid (m): sc-149211-SH, MAD2B shRNA (h) Lentiviral Particles: sc-106795-V and MAD2B shRNA (m) Lentiviral Particles: sc-149211-V.

Molecular Weight of MAD2B: 24 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **MAD2B (F-12): sc-377367** or **MAD2B (14): sc-135977**, our highly recommended monoclonal alternatives to MAD2B (H-82).