

MAD2 (E-17): sc-31790

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 prometaphase 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.

REFERENCES

1. Murray, A.W. 1992. Creative blocks: cell-cycle checkpoints and feedback controls. *Nature* 359: 599-604.
2. Glotzer, M. 1996. Mitosis: don't get mad, get even. *Curr. Biol.* 6: 1592-1594.
3. Chen, R.H., et al. 1996. Association of spindle assembly checkpoint component XMad2 with unattached kinetochores. *Science* 274: 242-246.
4. Li, Y., et al. 1996. Identification of a human mitotic checkpoint gene: hSMAD2. *Science* 274: 246-248.
5. O'Neill, T.J., et al. 1997. Interaction of MAD2 with the carboxyl terminus of the Insulin receptor but not with the IGFIR. Evidence for release from the Insulin receptor after activation. *J. Biol. Chem.* 272: 10035-10040.

CHROMOSOMAL LOCATION

Genetic locus: MAD2L1 (human) mapping to 4q27; Mad211 (mouse) mapping to 6 C1.

SOURCE

MAD2 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MAD2 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.

Blocking peptide available for competition studies, sc-31790 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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

MAD2 (E-17) is recommended for detection of MAD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (E-17) is also recommended for detection of MAD2 in additional species, including equine, canine, bovine, porcine and avian.

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.

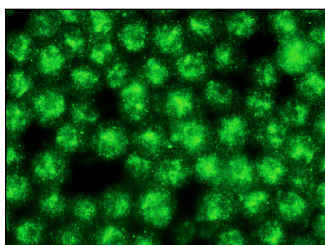
Molecular Weight of MAD2: 25 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MAD2 (E-17): sc-31790. Immunofluorescence staining of methanol-fixed BJAB cells showing nuclear localization.

PROTOCOLS

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

MONOS
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Try **MAD2 (C-10): sc-374131** or **MAD2 (17D10): sc-47747**, our highly recommended monoclonal alternatives to MAD2 (E-17).