

## Polyclonal Antibody to MAD1 - Serum

**Alternate names:** Spindle assembly checkpoint component

**Catalog No.:** BP4531

**Quantity:** 0.1 ml

**Background:** MAD1 is a non-essential gene that encodes a component of the spindle checkpoint. The spindle checkpoint delays the onset of anaphase in cells with defects in mitotic spindle assembly or in the attachment of chromosomes to the spindle microtubules. The checkpoint works by inhibiting the activity of the anaphase promoting complex, thereby preventing the degradation of several cell cycle regulators. Like other spindle checkpoint mutants, MAD1 loss-of-function mutants are sensitive to benomyl and cannot delay cell division in response to spindle depolymerization. Mad1p becomes hyperphosphorylated upon spindle depolymerization.

**Uniprot ID:** [P40957](#)

**NCBI:** [NP\\_011429.1](#)

**GeneID:** [852794](#)

**Host:** Rabbit

**Immunogen:** Purified recombinant GST-Mad1p.

**Format:** **State:** Liquid Unpurified Antiserum  
**Preservatives:** 0.09% Sodium Azide

**Applications:** **Western blot.**  
**Immunofluorescence.**  
*Recommended Starting Dilutions:* 1/100.  
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:** This antibody detects Yeast Mad1p.

**Storage:** Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.  
Avoid repeated freezing and thawing.  
Shelf life: One year from despatch.

**Protocols:** **Immunofluorescence protocol - Formaldehyde fixation**  
Collect cells from T.c.unit and remove media from petri dish using suction.  
Wash with 1x PBS and remove.  
Incubate cells in pre-warm (37°C) Para-Formaldehyde for 12 minutes at room temperature on an orbital shaker.  
Remove PFA and incubate in 0.5% Triton X-100 in 1x PBS for 5 minutes at room temperature.  
Prepare blocking reagent, this is also the antibody diluent.  
Wash cells 2x with 1x PBS at room temperature, for 4 minutes/wash on an orbital shaker.

Block with 1 % NCS and 1x PBS for 30 minutes at room temperature.  
Prepare primary antibodies (50µl/coverslip) and moist staining chambers.  
Wash cells 2x with 1x PBS at room temperature and air dry briefly.  
Incubate with primary antibody for 1 hr at room temperature in the dark in staining chambers. During this time prepare the secondary antibody.  
Wash cells 5x with 1x PBS (5 beaker changes/5 counts in each beaker)  
Incubate with secondary antibody for 1 hour at room temperature in the dark in staining chambers.  
Wash cells 5x with 1x PBS.  
Mount in Dapi.

Solutions (prepare fresh the same day of staining):

1x Phosphate buffered saline.  
Blocking reagent: 1% NCS in 1x PBS (use fresh 10x PBS).  
Fixation solution: 3.5% Para formaldehyde.  
1.75g PFA in 20 ml d.H<sub>2</sub>O plus 5 drops 1M NaOH. Stir on a hot plate at 50-60°C until dissolved. Add 4 drops 1N HCl and check pH indicator strip. PH should be 7.4. Complete volume with d.H<sub>2</sub>O to 25ml and add 25ml 2xPBS. Check pH before adding to cover slips.

**Immunofluorescence protocol - Methanol/acetone fixation**

Collect cells from T.C.unit and remove media from petri dish using suction.  
Wash with 1x PBS and remove.  
Fix cells with cold methanol: acetone 1: 1 for 10 minutes on ice.  
Prepare blocking reagent, this is also the diluent for the antibodies.  
Remove fixative and wash cells 3x with 1x PBS at RT, for 4 minutes/wash on orbital shaker.  
Block with 1% NCS and 1x PBS for 30 minutes at RT.  
Prepare primary antibodies (50µl/coverslip) and moist staining chambers.  
Wash cells 2x with 1 x PBS at RT and air dry for approximately 7 minutes.  
Incubate with primary antibody for 1 hr at RT in the dark in staining chambers. During this time prepare secondary antibody.  
Wash cells 5x with 1x PBS (5 beaker changes/5 counts in each beaker)  
Incubate with secondary antibody for 1 hr at R T in the dark in staining chambers.  
Wash cells 5x with 1x PBS.  
Mount in Dapi.

Solutions (prepare fresh the same day of staining):

1x Phosphate buffered saline.  
Blocking reagent: 1% NCS in 1x PBS (use fresh 10x PBS).  
Fixation solution: methanol:acetone 1: 1 ice cold.

**Western Blotting Protocol**

Transfer gel to PDVF or nitrocellulose membrane  
Place membrane in plastic tray in blocking buffer for one hour with agitation  
Rinse in wash buffer  
Incubate in wash buffer plus primary antibody for one hour  
Wash 6 X 5 minutes with wash buffer  
Incubate in wash buffer plus secondary antibody for one hour  
Wash 6X 5 minutes with wash buffer  
Detect (e.g. ECL, Amersham according to manufacturers instructions)

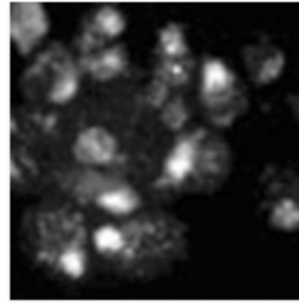
**Wash buffer:** PBS + 0.1% Tween 20

**Blocking buffer:** Wash buffer + 5% dried milk powder

The concentration of antibodies used depends on each antibody, the amount of antigen and the detection method used. Generally, dilution is in the range of a few hundred times dilution to a few thousand times dilution, but usually has to be determined empirically.

Pictures:

Immunofluorescence showing Mad1p polyclonal antibody on yeast.



Western blot showing Mad1p polyclonal antibody (1/100) on yeast whole cell lysate.

