

Technical Data Sheet

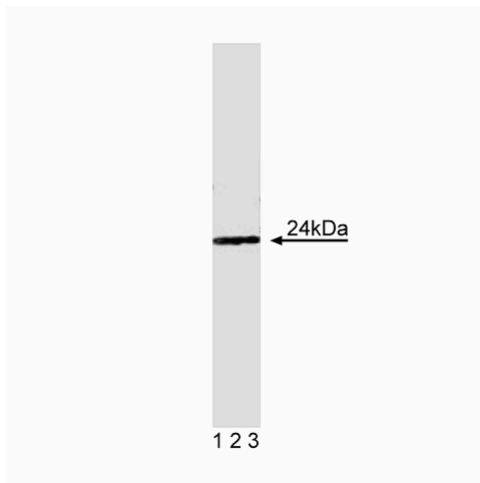
Purified Mouse Anti-MAD2

Product Information

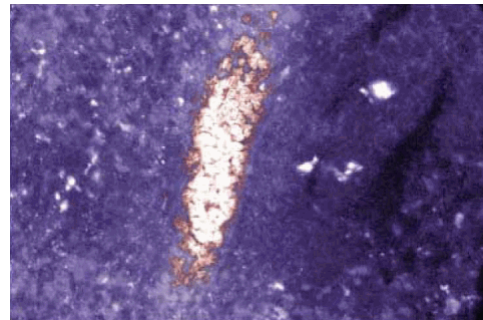
| | |
|------------------|--|
| Material Number: | 610679 |
| Alternate Name: | Mitotic Arrest Deficient-2 |
| Size: | 150 µg |
| Concentration: | 250 µg/ml |
| Clone: | 48/MAD2 |
| Immunogen: | Human MAD2 aa. 27-172 |
| Isotype: | Mouse IgG2a |
| Reactivity: | QC Testing: Human Tested in Development: Mouse, Rat |
| Target MW: | 24 kDa |
| Storage Buffer: | Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide. |

Description

Progression of the mammalian cell cycle is regulated by phosphorylation/dephosphorylation and synthesis/degradation of many key proteins. These events are of utmost importance at the checkpoints, or transition points, of the cell cycle. MAD2 (Mitotic Arrest Deficient) is the human homolog of a yeast and *Xenopus* protein that is essential for spindle assembly during mitosis. The human *hsMAD2* gene encodes a protein of 205 amino acids with a predicted molecular weight of 23.5 kDa. Binding of affinity purified polyclonal antibodies to the MAD2 protein prevents mitosis of HeLa cells. This indicates that, like its invertebrate relatives, MAD2 is necessary for mitosis. Furthermore, MAD2 is localized at the kinetochore of condensed chromosomes during mitosis and cells defective in the mitotic checkpoint have reduced levels of MAD2.



Western blot analysis of MAD2 on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-MAD2 antibody.



Immunofluorescence staining of rabbit spleen.

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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Application Notes

Application

| | |
|----------------------|---------------------------|
| Western blot | Routinely Tested |
| Immunofluorescence | Tested During Development |
| Immunohistochemistry | Tested During Development |
| Immunoprecipitation | Not Recommended |

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|----------------|-------------------------|--------|------------|
| 611451 | Jurkat Cell Lysate | 500 µg | (none) |
| 554002 | HRP Goat Anti-Mouse Ig | 1.0 ml | (none) |
| 554001 | FITC Goat Anti-Mouse Ig | 0.5 mg | Polyclonal |

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Babu JR, Jeganathan KB, Baker DJ. Rae1 is an essential mitotic checkpoint regulator that cooperates with Bub3 to prevent chromosome missegregation. *J Biol Chem.* 2003; 160(3):341-353.(Biology: Western blot)

Chen RH, Waters JC, Salmon ED, Murray AW. Association of spindle assembly checkpoint component XMAD2 with unattached kinetochores. *Science.* 1996; 274(5285):242-246.(Biology)

Iwanaga Y, Kasai T, Kibler K, Jeang KT. Characterization of regions in hSMAD1 needed for binding hSMAD2. A polymorphic change in an hSMAD1 leucine zipper affects MAD1-MAD2 interaction and spindle checkpoint function. *J Biol Chem.* 2002; 277(34):31005-31013.(Biology: Western blot)

Li Y, Benezra R. Identification of a human mitotic checkpoint gene: hSMAD2. *Science.* 1996; 274(5285):246-248.(Biology)

Saitoh H, Pizzi MD, Wang J. Perturbation of SUMOylation enzyme Ubc9 by distinct domain within nucleoporin RanBP2/Nup358. *J Biol Chem.* 2002; 277(7):4755-4763.(Biology: Immunofluorescence)