

Product description

Name: Anti-DMC1 [2H12/4] mAb

Species Reactivity: Bovine, Human, Mouse

Host Species: Mouse

Strain: BALB/c

Clonality: Monoclonal

Clone: 2H12/4

Isotype: IgG2a

Target: DMC1 is a meiosis-specific homologue of RecA/RAD51 and is an essential component of the meiotic recombination machinery in yeast and higher eukaryotes. This antibody is specific to DMC1 and does not cross-react RAD51.

Immunogen: human DMC1 protein (expressed as 6xHis fusion in E. coli and band cut out of gel of insoluble pellet)

Conjugate: Unconjugated

Myeloma used: Sp2/0-Ag14

Applications: IF; IP (Not stable after acidic elution); WB; IHC

Contributor(s)

Inventor: Stephen West

Institute: Cancer Research UK, London Research Institute: Clare Hall Laboratories

Properties

Format: Liquid

Concentration: 1 mg/ml

Storage buffer: PBS with 0.02% azide

Storage conditions: -20° C

Shipping conditions: Dry ice

Purification: Affinity chromatography

Purity: Greater than 90%, as determined by SDS-PAGE

Directions for use: The applications listed for this monoclonal antibody are derived from information supplied by the originating laboratory and/or relevant published literature. These applications have not been independently

validated by CancerTools.org. End users are responsible for performing appropriate titration and optimization for their experimental system. Application-specific guidelines will be provided when available.

This antibody has been validated for the detection of Dmc1 on mouse meiotic chromosome spreads prepared from testicular cells. Chromosome spreads are generated using a surface-spreading method on plastic-coated slides, followed by fixation in 4% paraformaldehyde with a brief SDS permeabilization step (0.03%). These conditions preserve meiotic chromosome morphology while allowing efficient antigen accessibility and have been found to produce clean, well-resolved Dmc1 signal.

For immunofluorescence, slides are blocked in antibody dilution buffer and incubated with the 2H12/4 anti-Dmc1 monoclonal antibody at 1:100 dilution (500 µL per slide). Incubation is performed overnight at 4 °C (or 2h at room temperature). Detection is achieved using a goat anti-mouse Alexa Fluor™ 488–conjugated secondary antibody at 1:500 dilution, followed by mounting in Vectashield with DAPI. Under these conditions, Dmc1 is visualized as numerous nuclear foci during leptotene and zygotene, with a reduced number of foci in early pachytene, consistent with the known dynamics of meiotic recombination.

Notes:

- Recommended permeabilization is achieved during fixation using 4% paraformaldehyde + 0.03% SDS.
- Photo-Flo–containing wash steps help reduce background and improve spread quality.

Reference protocol:

Tarsounas et al., Cell (2004) 117:337–347.

References

- Masson J-Y et al. 1999. EMBO J. 18(22):6552-6560. PMID: 10562567
- Erenpreisa J et al. 2009. Exp Cell Res. 315:2593-603. PMID: 19463812
- Inagaki A et al. J Cell Sci. 2011 Aug 15;124(Pt 16):2837-50
- Ianzini F et al. Cancer Res. 2009 Mar 15;69(6):2296-304.

Material Citation

If use of this material results in a scientific publication, please cite the material in the following manner: Anti-DMC1 [2H12/4] mAb, was invented by Stephen West at Cancer Research UK, London Research Institute (CancerTools.org, 151239).

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