

Product Information

Anti-Mus81 antibody, Mouse monoclonal

clone MTA30 2G10/3

purified from hybridoma cell culture

Catalog Number **M1445**

Product Description

Monoclonal Anti-Mus81 (mouse IgG2a isotype) is derived from the hybridoma MTA30 2G10/3 produced by the fusion of mouse myeloma cells (Sp2/0 Ag.14 cells) and splenocytes from BALB/c mice immunized with Mus81 protein. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-Mus81 recognizes human and monkey Mus81. The antibody may be used in immunoblotting, ~59 kDa, and immunoprecipitation.

DNA homologous regions that contain junctions of double-strand and single-strand DNA are an ideal substrate for homologous recombination proteins. The complex of proteins Mus81 and Eme1 form a DNA endonuclease that is required for tolerance of DNA damage that arrests or breaks replication forks for crossovers in meiosis and for cleavage of intact Holliday junctions (HJs).

Knockout mice that are homozygous *Mus81*^{-/-}, or their heterozygous cohorts *Mus81*^{+/-}, are susceptible to spontaneous chromosomal damage and cancer predisposition suggesting that this protein is important for genomic integrity and tumor suppression. Furthermore, expression of Mus81 is elevated in cells exposed to agents that block DNA replication.^{1,2}

Mus81 protein was identified by screening a human cerebellum cDNA library with a probe from the yeast Mus81.³ The human Mus81 predicts a translation product of 551 amino acids with a molecular mass of 59 kDa. The highest sequence similarity between different species is around the VERKX3D motif.³⁻⁶ This motif is conserved in the XPF family of nucleases. The protein has helix-hairpin-helix DNA-binding domains in the N- and C-termini of the protein that are also conserved.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1 µg/mL is recommended using HEK-293T total cell extract.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

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3. Chen, X.B. et al., *Mol. Cell*, **8**, 1117-1127 (2001).
4. McPherson, J.P. et al., *Science* **304**, 1822-1826 (2004).
5. Whitby, M.C., *Biochem. Soc. Trans.*, **33**, 1451-1455 (2005).
6. Haber, J.E. et al., *Cell*, **107**, 551-554 (2001).

EK,KAA,PHC,MAM 11/18-1