SANTA CRUZ BIOTECHNOLOGY, INC.

Eme1 (A-9): sc-393363

BACKGROUND

Essential meiotic endonuclease 1 (Eme1), a member of the Eme1/Mms4 family, associates with MUS81 to constitute a heterodimeric endonuclease that has been implicated in mitotic and meiotic recombination in eukaryotes. The MUS81-Eme1 complex cleaves branched DNA structures, especially those arising during stalled DNA replication such as replication forks and 3' DNA flaps. When purified from yeast, this complex cleaves synthetic Holliday junctions into linear duplex DNA. These findings provide compelling evidence that MUS81-Eme1 complexes are essential elements of the eukaryotic nuclear Holliday junction resolvase. Eme1 may also be required in mitosis for the processing of collapsed replication forks. Eme1 is typically localized to the nucleolus and is recruited to regions of DNA damage in S phase cells.

REFERENCES

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4. Ogrunc, M. and Sancar, A. 2003. Identification and characterization of human MUS81-MMS4 structure-specific endonuclease. J. Biol. Chem. 278: 21715-21720.
5. Ciccia, A., et al. 2003. Identification and characterization of the human MUS81-Eme1 endonuclease. J. Biol. Chem. 278: 25172-25178.
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7. Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. Proc. Natl. Acad. Sci. USA 101: 12130-12135.
8. Blais, V., et al. 2004. RNA interference inhibition of MUS81 reduces mitotic recombination in human cells. Mol. Biol. Cell 15: 552-562.
9. Hiyama, T., et al. 2006. Haploinsufficiency of the MUS81-Eme1 endonuclease activates the intra-S-phase and G_2/M checkpoints and promotes rereplication in human cells. Nucleic Acids Res. 34: 880-892.

CHROMOSOMAL LOCATION

Genetic locus: EME1 (human) mapping to 17q21.33; Eme1 (mouse) mapping to 11 D.

SOURCE

Eme1 (A-9) is a mouse monoclonal antibody raised against amino acids 37-91 mapping near the N-terminus of Eme1 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Eme1 (A-9) is available conjugated to agarose (sc-393363 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393363 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393363 PE), fluorescein (sc-393363 FITC), Alexa Fluor® 488 (sc-393363 AF488), Alexa Fluor® 546 (sc-393363 AF546), Alexa Fluor® 594 (sc-393363 AF594) or Alexa Fluor® 647 (sc-393363 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393363 AF680) or Alexa Fluor® 790 (sc-393363 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

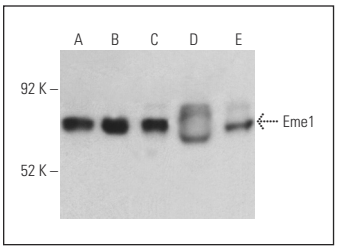
Eme1 (A-9) is recommended for detection of Eme1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Eme1 siRNA (h): sc-72080, Eme1 siRNA (m): sc-144638, Eme1 shRNA Plasmid (h): sc-72080-SH, Eme1 shRNA Plasmid (m): sc-144638-SH, Eme1 shRNA (h) Lentiviral Particles: sc-72080-V and Eme1 shRNA (m) Lentiviral Particles: sc-144638-V.

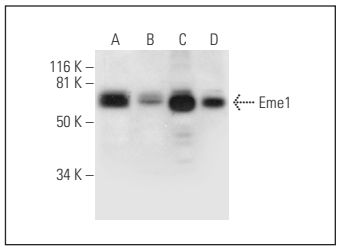
Molecular Weight of Eme1: 65 kDa.

Positive Controls: BC_3H1 cell lysate: sc-2299, NIH/3T3 nuclear extract: sc-2138 or RAW 264.7 nuclear extract: sc-24961.

DATA



Eme1 (A-9): sc-393363. Western blot analysis of Eme1 expression in HeLa (**A**), Jurkat (**B**) and NIH/3T3 (**C**) nuclear extracts and MM-142 (**D**) and 3T3-L1 (**E**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



Eme1 (A-9): sc-393363. Western blot analysis of Eme1 expression in c4 (**A**) and BC_3H1 (**B**) whole cell lysates and NIH/3T3 (**C**) and RAW 264.7 (**D**) nuclear extracts.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

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