SANTA CRUZ BIOTECHNOLOGY, INC.

Eme1 (N-25): sc-130135

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The Power to Question

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

1. England, M.C. and Best, E. 1977. Noninduced apical closure in immature roots of dogs' teeth. J. Endod. 3: 411-417.
2. Rott, H.D., et al. 1978. Kartagener's syndrome in sibs: clinical and immunologic investigations. Hum. Genet. 43: 1-11.
3. 1992. Tonsils: A clinically oriented update. 2nd international symposium on tonsils. Pavia, September 11-13, 1991. Adv. Otorhinolaryngol. 47: 1-349.
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.
6. Smith, G.R., et al. 2003. Fission yeast MUS81.Eme1 Holliday junction resolvase is required for meiotic crossing over but not for gene conversion. Genetics 165: 2289-2293.
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.

CHROMOSOMAL LOCATION

Genetic locus: EME1 (human) mapping to 17q21.33.

SOURCE

Eme1 (N-25) is a purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Eme1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Eme1 (N-25) is recommended for detection of Eme1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] 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 shRNA Plasmid (h): sc-72080-SH and Eme1 shRNA (h) Lentiviral Particles: sc-72080-V.

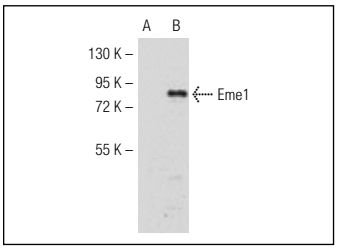
Molecular Weight of Eme1: 65 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Eme1 (N-25): sc-130135. Western blot analysis of Eme1 expression in 293 showing nontransfected (**A**) and transfected (**B**) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **Eme1 (MTA31 7h2/1): sc-53275** or **Eme1 (E-6): sc-390971**, our highly recommended monoclonal aternatives to Eme1 (N-25). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Eme1 (MTA31 7h2/1): sc-53275**.