SANTA CRUZ BIOTECHNOLOGY, INC.

Mus81 (yL-19): sc-26616

BACKGROUND

Together, DNA repair and checkpoint responses ensure the integrity of the genome. Coordination of cell cycle checkpoints and DNA repair are especially important following genotoxic radiation or chemotherapy, during which unusually high loads of DNA damage are sustained. Mus81 encodes a helix-hairpin-helix protein involved in the response to UV- and methylation-induced DNA damage in *Saccharomyces cerevisiae*. Mus81 is important for replicational stress tolerance in both budding and fission yeast. Specifically, Mus81 associates with Eme1 to form an endonuclease that can process stalled replication forks before they have regressed to form a Holliday junction. Mus81 associated endonuclease resolves Holliday junctions into linear duplexes by cutting across the junction exclusively on strands of like polarity. In addition, Mus81 protein abundance increases in cells following exposure to agents that block DNA replication. Mus81 is involved in the recruitment of CDS1 to aberrant DNA structures where CDS1 modulates the activity of damage tolerance enzymes. The gene encoding human MUS81 maps to chromosome 11q13 and encodes a 551 amino acid protein.

REFERENCES

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3. Whitby, M.C., Osman, F. and Dixon, J. 2004. Cleavage of model replication forks by fission yeast Mus81-Eme1 and budding yeast Mus81-Mms4. J. Biol. Chem. 278: 6928-6935.
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5. Interthal, H. and Heyer, W.D. 2000. MUS81 encodes a novel helix-hairpin-helix protein involved in the response to UV- and methylation-induced DNA damage in *Saccharomyces cerevisiae*. Mol. Gen. Genet. 263: 812-827.

SOURCE

Mus81 (yL-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Mus81 of *Saccharomyces cerevisiae* origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-26616 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

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.

APPLICATIONS

Mus81 (yL-19) is recommended for detection of Mus81 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Mus81: 72 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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.