SANTA CRUZ BIOTECHNOLOGY, INC.

Msh3 (yD-20): sc-26232

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The Power to Question

BACKGROUND

Multiple pathways promote short-sequence recombination (SSR) in *Saccharomyces cerevisiae*. When gene conversion is initiated by a double-strand break (DSB), any nonhomologous DNA that may be present at the ends must be removed before new DNA synthesis can be initiated. Removal of a 3' non-homologous tail in *S. cerevisiae* depends on the nucleotide excision repair endonuclease Rad1/Rad10, and also on the mismatch repair proteins Msh2 and Msh3. Also important for SSR is the MRE11 complex (also known as M/R/X), which is a multisubunit nuclease composed of MRE11, Rad50 and Nbs1/Xrs2. Genetic evidence suggests that Rad1/10 and M/R/X act on the same class of substrates during SSR. Msh2 and Msh3, which function in mitotic recombination, recognize not only heteroduplex loops and mismatched basepairs, but also branched DNA structures with a free 3' tail.

REFERENCES

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2. Selva, E.M., Maderazo, A.B. and Lahue, R.S. 1997. Differential effects of the mismatch repair genes Msh2 and Msh3 on homologous recombination in *Saccharomyces cerevisiae*. Mol. Gen. Genet. 257: 71-82.
3. Sugawara, N., Paques, F., Colaiacovo, M. and Haber, J.E. 1997. Role of *Saccharomyces cerevisiae* Msh2 and Msh3 repair proteins in double-strand break-induced recombination. Proc. Natl. Acad. Sci. USA 94: 9214-9219.
4. Paques, F. and Haber, J.E. 1997. Two pathways for removal of nonhomologous DNA ends during double-strand break repair in *Saccharomyces cerevisiae*. Mol. Cell. Biol. 17: 6765-6771.
5. Kearney, H.M., Kirkpatrick, D.T., Gerton, J.L. and Petes, T.D. 2001. Meiotic recombination involving heterozygous large insertions in *Saccharomyces cerevisiae:* formation and repair of large, unpaired DNA loops. Genetics 158: 1457-1476.
6. Manthey, G.M. and Bailis, A.M. 2002. Multiple pathways promote short-sequence recombination in *Saccharomyces cerevisiae.* Mol. Cell. Biol. 22: 5347-5356.
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SOURCE

Msh3 (yD-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Msh3 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-26232 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Msh3 (yD-20) is recommended for detection of Msh3 of *Saccaromyces 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 Msh3: 116 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.

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.