SANTA CRUZ BIOTECHNOLOGY, INC.

Spo11 (yN-20): sc-25909

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Meiotic recombination in *Saccharomyces cerevisiae* is initiated by programmed DNA double-strand breaks (DSBs), a process that requires the Spo11 protein. DSBs usually occur in intergenic regions that display open chromatin accessibility. Spo11p is related to a subunit of archaebacterial topoisomerase VI and appears to cleave DNA through a topoisomerase-like transesterase mechanism. Formation of the DSBs that initiate meiotic recombination requires the products of at least 10 genes. Spo11 may be the catalytic subunit of the DNA cleaving activity. Studies in fission yeast, multicellular fungi, flies, worms, plants, and mammals indicate that the role of Spo11 in meiotic recombination initiation is highly conserved. Spo11 is a nuclear protein belonging to the TOP6A family.

REFERENCES

1. Keeney, S. 2001. Mechanism and control of meiotic recombination initiation. Curr. Top. Dev. Biol. 52: 1-53.
2. Diaz, R.L., Alcid, A.D., Berger, J.M., and Keeney, S. 2002. Identification of residues in yeast Spo11p critical for meiotic DNA double-strand break formation. Mol. Cell. Biol. 22: 1106-1115.
3. Pecina, A., Smith, K.N., Mezard, C., Murakami, H., Ohta, K., and Nicolas, A. 2002. Targeted stimulation of meiotic recombination. Cell. 111: 173-184.
4. Kee, K. and Keeney, S. 2002. Functional interactions between SPO11 and REC102 during initiation of meiotic recombination in *Saccharomyces cerevisiae*. Genetics. 160: 111-122.
5. SWISS-PROT/TrEMBL (P23179). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

Spo11 (yN-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Spo11 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-25909 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

Spo11 (yN-20) is recommended for detection of Spo11 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).

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.