SANTA CRUZ BIOTECHNOLOGY, INC.

Zip1 (y-300): sc-33733

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Zip1 is a yeast synaptonemal complex (SC) central region component and is required for normal meiotic recombination and crossover interference. Zip1 plays at least one role in recombination that does not involve SC polymerization along the chromosomes. Perhaps some Zip1 molecules act first in or around the sites of recombinational interactions to influence the recombination process and thence nucleate SC formation. Zip1 is predicted to form an α-helical coiled coil, flanked by globular domains at the amino- and carboxy-termini. The amino-terminal domain of Zip1 is located in the middle of the central region of the SC, whereas the carboxy-terminal domain is embedded in the lateral elements of the complex. Furthermore, the carboxy-terminus, but not the amino-terminus, of Zip1 is required for its localization to chromosomes. The Zip1 mutant, which exhibits defects in synaptonemal complex formation and meiotic recombination, triggers a checkpoint that causes cells to arrest at the pachytene stage of meiotic prophase.

REFERENCES

1. Storlazzi, A., Xu, L., Schwacha, A. and Kleckner, N. 1996. Synaptonemal complex (SC) component Zip1 plays a role in meiotic recombination independent of SC polymerization along the chromosomes. Proc. Natl. Acad. Sci. USA 93: 9043-9048.
2. Xu, L., Weiner, B.M. and Kleckner, N. 1997. Meiotic cells monitor the status of the interhomolog recombination complex. Genes Dev. 11: 106-108.
3. Tung, K.S. and Roeder, G.S. 1998. Meiotic chromosome morphology and behavior in Zip1 mutants of *Saccharomyces cerevisiae*. Genetics 149: 817-832.
4. Dong, H. and Roeder, G.S. 2000. Organization of the yeast Zip1 protein within the central region of the synaptonemal complex. J. Cell Biol. 148: 417-426.
5. Bailis, J.M., Smith, A.V. and Roeder, G.S. 2000. Bypass of a meiotic checkpoint by overproduction of meiotic chromosomal proteins. Mol. Cell. Biol. 20: 4838-4848.

SOURCE

Zip1 (y-300) is a rabbit polyclonal antibody raised against amino acids 576-875 mapping at the C-terminus of Zip1 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.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

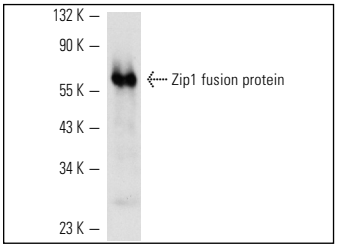
Zip1 (y-300) is recommended for detection of Zip1 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Zip1: 109 kDa.

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). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Zip1 (y-300): sc-33733. Western blot analysis of yeast recombinant Zip1 fusion protein.

SELECT PRODUCT CITATIONS

1. Bardhan, A., Chuong, H. and Dawson, D.S. 2010. Meiotic cohesin promotes pairing of nonhomologous centromeres in early meiotic prophase. Mol. Biol. Cell 21: 1799-1809.

RESEARCH USE

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