

Cleveland State University

EngagedScholarship@CSU

Undergraduate Research Posters 2013

Undergraduate Research Posters

9-5-2013

Functional Morphology of Rat Hands and Feet: Correlation with the Ability to Grip Tree Branches During Locomotion

Jessica E. Fonce
Cleveland State University

Andrew R. Lammers
Cleveland State University, A.LAMMERS13@csuohio.edu

Follow this and additional works at: https://engagedscholarship.csuohio.edu/u_poster_2013



Part of the [Animal Sciences Commons](#), and the [Motor Control Commons](#)

[How does access to this work benefit you? Let us know!](#)

Recommended Citation

Fonce, Jessica E. and Lammers, Andrew R., "Functional Morphology of Rat Hands and Feet: Correlation with the Ability to Grip Tree Branches During Locomotion" (2013). *Undergraduate Research Posters 2013*. 16.

https://engagedscholarship.csuohio.edu/u_poster_2013/16

This Article is brought to you for free and open access by the Undergraduate Research Posters at EngagedScholarship@CSU. It has been accepted for inclusion in Undergraduate Research Posters 2013 by an authorized administrator of EngagedScholarship@CSU. For more information, please contact library.es@csuohio.edu.



Function of a novel checkpoint protein in the germ line

College of Sciences and Health Professions

Department of Biological, Geological & Environmental Sciences

Student Researchers: Steven Drellishak; Marina Bykova

Faculty Advisor: G. Valentin Börner, Ph.D.

Abstract

Successful reproduction of *Saccharomyces cerevisiae* relies on the organism's ability to complete the meiotic cell cycle and produce viable gametes. Zip1 is a protein that constitutes the central component of a protein structure that connects homologous chromosomes known as the synaptonemal complex. Zip1 is important for progression through the meiotic cell cycle. The C terminus of the coiled-coil Zip 1 protein is responsible for localization to the axes of the chromosomes. An internal deletion near the C terminus of Zip1, called zip1-c1, yields a stronger meiotic arrest than a mutation where Zip1 is completely deleted. The more efficient meiotic progression in a Zip1 deletion mutation versus the zip1-c1 mutant suggests that zip1-c1 prevents an alternative pathway of meiotic progression. A genomic screen of the Nasmyth genomic library revealed candidate plasmids N5 and N89 containing yeast genes which, when overexpressed, increase spore viability and bypass meiotic arrest in the zip1-c1 mutant. This has implications that the genes on the overexpression plasmids serve some function in correcting mistakes in meiosis when Zip1 is mutated.