F301 The studies of *Schizosaccharomyces pombe* mutants defective in the division of the cell cycle

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Fission yeast *S. pombe* is a rod-shaped cell that divides by medial cleavage using an actin based contractile ring and the septum. In order to understand the mechanism of cytokinesis, we have screened for temperature-sensitive *cdc* mutants which show abnormal cell division. One of the mutants (named as #17) is the longer than the wild type and cannot finish the cytokinesis at restricted temperature(37℃). The mutant 17 was shown scattered nuclei in the cytoplasm. We have cloned the gene from the mutant 17 using the functional complementation effect at the restricted temperature(37℃). The newly cloned gene has an open reading frame of 2090 bps containing 2 introns. The deduced amino acid sequence predicts a protein of 76 kDa containing 689 amino acids. We are trying to find out the role of the gene in septum formation.

F302 Molecular Characterization of the *sool-1* Mutant Allele Which Confers Osmofragility by Impairing Cell Wall β-1,3-Glucan Biosynthesis in *Saccharomyces cerevisiae*

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Our previous study showed that the mutation in the *SOO1/αCOP* gene of *Saccharomyces cerevisiae* conferred temperatue snesitive(ts) osmofragility by imparing cell wall β-1,3-glucan biosynthesis. To characterize the mutaion at molecular level, the *sool-1* mutant allele were cloned and characterized. Complementation test and nucleotide sequencing located two mutations at the N-termianl region of the *sool-1*; one deletion at position 45(G) and the other G to A base substitution at 681. The deletion causes a frame shift and incomplete termiantion by the stop codon at 76. However, complementation test with the various N-termianl deletion constructs of the *SOO1* confirmed synthesis of an active truncated Soolp using a ATG codon at 421. These results indicate that the ts phenotype of the *sool-1* mutation may be due to the change of Gly^{227} to Asp and that Gly^{227} may be crucial for translocation of protein(s) involved in β-1,3-glucan biosynthesis to plasma membrane via COPI vesicle in *S. cerevisiae*.