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Characterization of *cos* Mutants Involved in the Cell Cycle Progression in *S. cerevisiae*

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To understand the mechanisms which control the initiation of DNA synthesis in the cell cycle, we isolated the mutants sensitive to ciclopirox olamine(CPO) which inhibits the cell cycle progression at the G1/S phase. In a screen for CPO sensitivity, we have isolated 14 mutants and named them *cos* (ciclopirox olamine sensitive *cos*13~26) mutants. We determined the characterization of these mutants using a FACScan analysis and examining the sensitivity to hydroxyurea (HU) and methylmethane sulfonate (MMS) and their plasmid stability.

According to these phenotypes, we separated these mutants into six groups. To further understand these mutant, we have cloned the genes which complement the *cos* mutants. As a result, the genes which complement the *cos13*, *cos18*, *cos22* or *cos23* mutants were cloned and sequenced. Interestingly, two genes (pCOS23-1 and pCOS23-2) which complement the *cos23* mutation were isolated. Moreover, when this *cos23* mutant contained the pCOS23-2 plasmid, it showed more resistance to CPO than wild type strain. This gene has a putative F-box. We will report on the characterization of *cos* mutants and their genes involved in the cell cycle progression.