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Ultrastructural Changes in The Cell Wall Of Erv14 Mutants From The Yeast *Saccharomyces cerevisiae*

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Yeast cells are particularly impermeable to exogenous agents mainly due to the presence of the cell wall. New techniques like cryofixation do not help much in improving the intracellular ultrastructure of *S. cerevisiae* under TEM.

We were able to observe structural changes in the cell wall from wild type (wt) and S134D, S134A, ^{134}DAAA^{137} and ^{134}AAAA^{137} Erv14 mutant yeast cells by employing chemical fixation and standard procedures, with $KMnO_4$ or OsO_4 treatments under TEM at 80 kV.

In cells stained with KMnO4 before embedding the wall showed layers with distinct structure (fig.1) but the yeast walls appeared transparent to the electrons in uranyl acetate stained sections in samples previously treated with KMnO4 (fig. 2).

The strain characteristics may be an explanation for the structural differences of the cell wall in mutant yeasts.

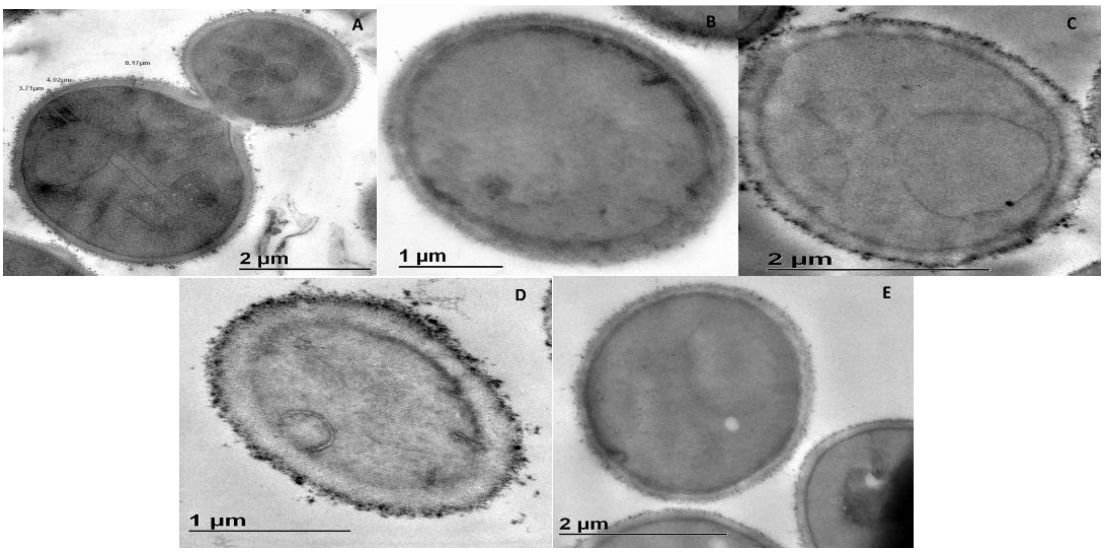

Figure 1. Electron micrograph of *S. cerevisiae* in sections of wild type and mutant cells stained with KMnO4. Notice the different structure of the cell wall in each case: Wt A), SD mutant B), SA mutant C), DAAA mutant D) and AAAA mutant E). Images taken at 6,000 X magnification.

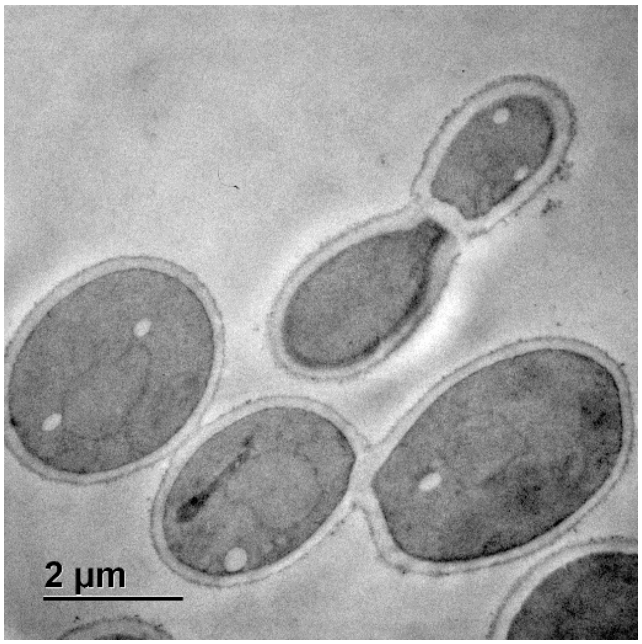

Figure 2. Electron micrograph showing cell ultrastructure from *S. cerevisiae* wild type cells post-fixed with $KMnO_4$ and uranyl acetate and Reynold's lead citrate stain. Image taken at 4,000 X magnification.

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