CONSTRUCTION OF SYSTEM ALLOWS TO DISPLAY HETEROLOGOUS PROTEIN ON THE YEAST CELL SURFACE DISPLAY

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Introduction and objective. Display of heterologous proteins on the cell surface of microorganisms have been actively studied and various applications reported, including use as whole-cell biocatalysts, screening of antigens, and development of vaccines. To display proteins on yeast cells, target genes have been fused with C-terminal anchor-domain sequences of native cell-wall of *Saccharomyces cerevisiae*. The aim of this study is to construct recombinant yeast displaying glucoamylase anchored on the yeast cell surface using the C-terminal region of the *S. cerevisiae* Flo1protein(Flo1p) like domain anchor. To reach this objective, in the first stage there was cloned the C-terminal region of the gene *FLO1* from *S. cerevisiae* genomic DNA. **Results.** Restriction analyses of plasmid isolated from transformant clones allowed us to identify plasmid pGEMT-Flo1. This plasmid contain the fragment encoding C-terminal region of Flo1p from *S. cerevisiae* amplified by PCR. The result of sequence reaction confirmed the correct sequence of fragment Flo1p inserted into pGEMT-Easy vector. Glucoamylase, amplified by PCR, was inserted into pMA91 vector under *PGK* promoter from *S. cerevisiae*. The presence of the insert glicoamilase was revealed by restriction analyses. **Conclusion.** It was possible to cloning of C-terminal region of Flo1p inside *Escherichia coli* DH5a cells, which will be used in the next stage as anchor to fix glucoamylase on the cell wall *S. cerevisiae*.

Key words : Cell surface display, Flo1p, glucoamylase, yeast.
Apoio Financeiro: Companhia Vale do Rio Doce- CVRD