Development of efficient system for production of protein resources by yeast supersecreting mutants

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Yeast supersecreting mutant strains were examined for their ability to produce lysozyme protein. The *ssl1* mutant strains secreted 10-fold more lysozyme than the wild type parent strain. The efficiency was improved 10-folds by introduction of the lysozyme gene by multi-copy plasmids. About 10-fold improvement was also achieved by supplying casamino acids in culture media. New *ssl1* host strains, which secreted 3-4 fold more lysozyme than the original *ssl1* mutant strain, were obtained by crossing the original *ssl1* mutant strain and a wild type strain. The new *ssl1* transformant secreted 500-fold more lysozyme in synthetic media supplemented with casamino acids than the original *ssl1* muant did in synthetic media. These data indicate that the above factors help multiplicatively one another and yeast mutants can contribute to build up highly efficient system to produce protein resources.