

ISOLASI DAN KARAKTERISASI MUTAN sal4 DI RAGI (*SACCHAROMYCES CEREVISIAE*)

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ABSTRACT

Recently, genetics manipulation in yeast Saccharomyces cerevisiae have much been done. It because yeast can be used as a host cell alternative in the foreign protein expression, therefore information about translation fidelity from yeast should be studied. Preliminary study showed that SAL 4 gene has assumed to has a role in translation fidelity control and/or termination factor. To study the gene function, mutation in yeast BSC483/1a has been done by Ethylmethane sulphonate. Mutants wished are mutated at sal 4 locus and have characteristic of both allosuppressor and omnipotent suppressor. Phenotype of allosuppressor mutants were indicated by white colour consistency in YPD and Y8 medium, temperature sensitivity, paromomycin sensitivity and growth rate. Quantitatively, effectiveness as omnipotent suppressor has been done by using gene fusion between PGK and β -galaktosidase. The result showed that BSC483/1a strain could be mutated by Ethymethane sulphonate 1% and produced eight allosuppressor mutants. Two of them (Number 8 and 10) have characteristic of temperature sensitive, and the others two (Number 1 and 13) were mutated at sal 4 gene locus. Characterize of sal 4 mutants (1 and 13) didn't show temperature sensitive and have growth rate relatively more slowly than the wild type. Mutant (number 13) could suppress nonsense mutation (readthrough) at termination codon UAG with β -galactosidase activity as amount as 2.70 unit/ml.