



## Abstracts (August - November 2001)

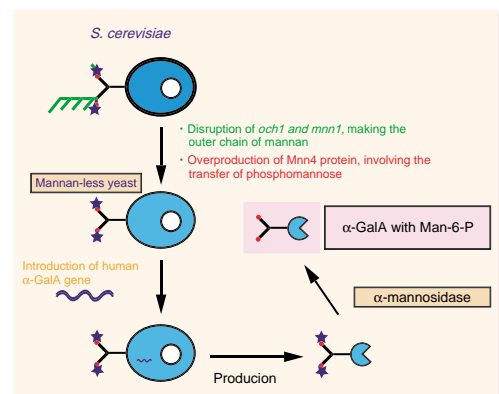
The abstracts of the recent research information appeared on the Vol.1 No.7-No.10 of "AIST today" are introduced, classified by research area.  
For inquiry about the full article, please contact the author directly.

### Life Science & Technology

## Production of Therapeutic Glycoprotein in Yeast for Lysosomal Disease

Yasunori CHIBA  
Institute of Molecular  
and Cell Biology  
e-mail:y-chiba@aist.go.jp  
AIST Today;  
Vol. 1, No. 7 (2001) 10

In order to produce the more economic therapeutics for replacement therapy of Fabry disease, we introduced human  $\alpha$ -galactosidase ( $\alpha$ -GalA) gene into *S. cerevisiae* mutant that disrupted the outer chains, and expressed. The recombinant  $\alpha$ -GalA had both neutral and also acidic oligosaccharides. Because mannose-6-phosphate (Man-6-P) residue is needed to incorporate the  $\alpha$ -GalA into the lysosome, we trimmed down the oligosaccharides of the enzyme by a new bacterial  $\alpha$ -mannosidase. The  $\alpha$ -GalA treated with the  $\alpha$ -mannosidase had Man-6-P residues on non-reduced end of oligosaccharide chains. Incorporated  $\alpha$ -GalA was targeted to the lysosome and degraded ceramide trihexoside in the fibroblast of the Fabry cells.



Strategy for the production of  $\alpha$ -GalA with Man-6-P residues from yeast