

## Changes in the Phosphatase Activity and Location of Phosphatases in Baker's Yeast Cells

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Using phenolphthalein diphosphate as a substrate it was possible to demonstrate three peaks in the pH-curve of the phosphatase activity of baker's yeast, one at the pH optimum of the acid phosphatase, 4.3, and two on the alkaline side at pH 7.9 and 8.9. The acid phosphatase of baker's yeast is mainly located on the cell surface, about one third, however, within the cell. Both alkaline phosphatase components are wholly located inside the cell membrane.

During the industrial cultivation of baker's yeast the nitrogen content decreases stage by stage, as does the phosphorus content during the last two stages. The acid phosphatase activity first increases, but falls sharply to one tenth during the growth period of the precommercial  $A_4$  stage. The activity increases again during the cultivation of the commercial yeast stage when the phosphorus content of the yeast still more decreases. During the

phosphorus starvation of the commercial yeast stage the activity of the acid phosphatase increases sharply being 3 to 8 fold in 8 h as compared with the seed yeast.

The activity of the alkaline phosphatases up to the commercial yeast stage does apparently follow the decrease in the phosphorus content of the yeast cells. A sharp increase in the activity 4 to 6 times is, however, observed during the experimental phosphorus starvation of the cells.

A more detailed report will be published elsewhere<sup>1</sup>.

1. Suomalainen, H., Linko, M. and Oura, E. *Biochim. et Biophys. Acta. In press.*

## Stereochemical Course of the Conversion of Cholesterol to Bile Acid

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With the aid of cholesterol stereospecifically tritium labelled at positions 3 $\alpha$ , 4 $\alpha$ , 4 $\beta$ , 6, 7 $\alpha$ , 7 $\beta$ , or 7 $\alpha$  7 $\beta$ , 8 $\beta$ , the course of the transformation of cholesterol into chenodeoxycholic and cholic acid has been investigated in the rat and pig.