

## Selection of conditions of preliminary treatment of yeast for obtaining $\beta$ -glucan

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### Abstract

Now, there is growing interest in selection of  $\beta$ -glucan from the cells of microorganisms, primarily yeast.  $\beta$ -Glucans are applied in cosmetology, medicine, food industry. The purpose of this work is the selection conditions for the isolation of  $\beta$ -glucans from yeast biomass in terms of its complex processing producing nucleic acids and protein substances. The conditions for the pretreatment of yeast biomass *Saccharomyces cerevisiae* and to produce  $\beta$ -glucan were studied. As a result of the investigations the conditions of pretreatment of yeast biomass *Saccharomyces cerevisiae* and *Candida maltosa* for the subsequent allocation of beta-glucan were chosen. The conditions of denuclearization and deproteinization of the biomass were selected. The advantage of enzymatic extraction compared to acid extraction of proteins in terms was shown. It was found that enzymatic extraction provides a higher yield of proteins simultaneously with a low extraction of carbohydrate fractions in the soluble phase, thereby allowing to obtain semi-products with relatively high content of fiber, promising to further isolation of beta-glucan. It was shown that the treated Pancreatin the yeast *Saccharomyces cerevisiae* is the most preferable for further extraction of beta-glucan. The obtained results allow to recommend the selected conditions for complex processing of used baking and beer yeast with the aim of obtaining highly purified samples of beta-glucan for food industry and medicine. The type of yeast biomass and its processing for subsequent use for isolation of  $\beta$ -glucan was selected.

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