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## Purification and Biochemical Analysis of Rice Bran Lipase Enzyme

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### Objectives

A simple procedure for the extraction of the lipolytic enzyme from rice bran has been developed.

### Materials and Methods

1. Plant materials: Rice bran
2. Methods: micro- and ultrafiltration apparatus, SDS-PAGE, Lipolytic hydrolysis

### Results and Discussion

High activity of lipolytic enzyme was obtained by first defatting the rice bran to remove lipid components with various extraction conditions. Then, after five cycles of aqueous extraction, rice bran lipolytic enzyme was purified using micro- and ultrafiltration apparatus. Lipolytic enzyme activity was estimated by its hydrolytic action of tributyrin. The result indicated that the standard activity curve of butyric acid showed that the potential rice bran enzyme is a hydrolytic lipase enzyme. It was clear that the rate of hydrolysis was highest in the case of tributyrin. Among the oils, it showed that olive oil was hydrolyzed faster than the other oils. In addition, it showed higher lipolytic activity and specific enzyme activity with further purification by micro- and ultrafiltration. The size of rice bran lipase enzyme was identified through 15 % SDS-PAGE. The molecular weight of the rice bran lipase enzyme was 41 kDa.