

Isolation and characterization of lactic acid bacteria from lakes

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Isolates of Lactic acid bacteria (LAB) have been frequently reported from a variety of environments, including milk products, fermented foods and plants. However, studies on the isolation of LAB from lake-water remain scarce. The aim of this study is to isolate, characterize and identify bacteriocins from lactic acid bacteria in lakes. LAB were isolated from lake-water samples collected at 7 lakes distributed in Yamanashi prefecture, Japan. Sampling was performed year round. 112 cultures were isolated and divided into classes by phenotype and then into groups by restriction fragment length polymorphism analysis and sequencing of 16S ribosomal DNA. Phenotypic and biochemical characteristics identified eleven different bacterial groups (A to K), and the results showed that the isolates represented seven genera: *Lactococcus*, *Leuconostoc*, *Enterococcus*, *Lactobacillus*, *Canobacterium*, *Streptococcus*, and *Weissella*. *Lactococcus lactis* subsp. *lactis* was the most abundant lactic acid bacteria found in these lakes. Furthermore, *Lactococcus lactis* subsp. *lactis* was also the most abundant lactic acid bacteria found throughout the year. Seasonal differences, numbers of isolates and the species of lactic acid bacteria were also recorded in this study.

Reference:

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