



GENETIC VARIABILITY IN LACTIC ACID BACTERIA ISOLATED FROM FERMENTED DAIRY PRODUCTS SOLD IN OCOTLÁN, JALISCO

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Introduction. Lactic acid bacteria (LAB) are closely associated with food and health. Related to the intestinal flora are a special group of microorganisms (probiotics) which offers a potential application in the prevention of intestinal infections (1). PCR has revolutionized the characterization of microbial ecology. Among the techniques of identification by PCR is the random amplified polymorphic DNA fragments (RAPD). This technique can achieve a high level of discrimination, speed, ease of use and interpretation and low costs (2).

The main objective of this work was the study of genetic diversity of lactic acid bacteria isolated from fermented dairy products sold in the city of Ocotlán.

Methods. Ten samples were obtained from four different fermented dairy products (L, Y, C, and A). The extraction of genomic DNA, RAPD amplifications and statistical analysis were carried according to the method of (3).

Results. The results of RAPD analysis was performed of genetic diversity of strains in the study. In Fig. 1 shows the UPGMA dendrogram derived from similarity coefficients calculated by the Jaccard method. Four distinct groups were generate: Group 1 strains isolated from the product L (L1 – L10), group 2 strains from the product Y (Y1 – Y10), group 3 strains from the product C (C1 – C10), and group 4 strains from the product A (A1 – A10). Molecular characterization of the microflora of dairy products, using the RAPD technique has been used by several authors (2, 4, 5).

Conclusions. UPGMA dendrogram establishes the existence of four groups of genetic diversity. Each group dendrogram is correlated to a fermented dairy product. The RAPD technique is a useful tool in the molecular characterization.

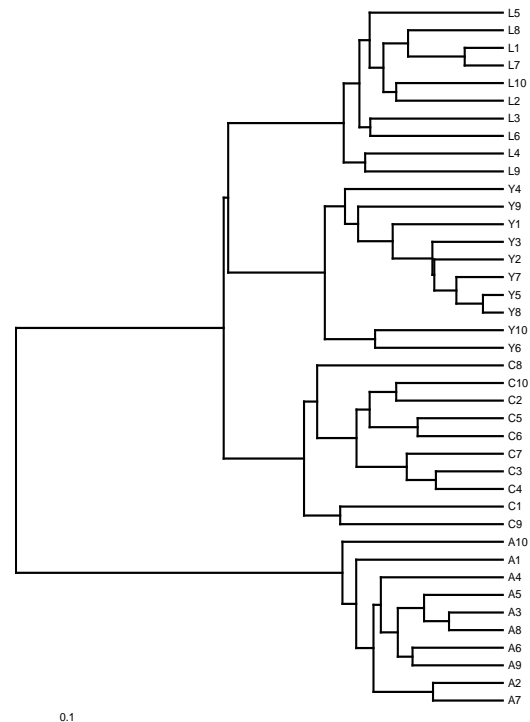


Fig.1 UPGMA dendrogram derived from similarity coefficients calculated by the Jaccard method, showing the relationship between strains isolated from fermented dairy products (L, Y, C, and A).

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