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Phylogenetic Relationship of *Lactobacillus* sp. Based on a Random Amplified Polymorphic DNA(RAPD) Assay

Jung-Hwa Lee and Oh-Sik Kwon*

Department of Biology, Keimyung University, Daegu 704-701

Genetic relationship of *Lactobacillus* inter- and intra species were determined by a RAPD assay. Upon using various random primers, the results were analyzed by a phenetic analysis with the NTSYS-PC software. It revealed that all tested lactic acid bacteria were separated into three distinct branches. The branches implied three subgenus of *Lactobacillus* sp., which were previously proposed by Rogosa and Sharpe(1987). From the results, it was also possible to determine that the newly isolated lactic acid bacteria from fermented milk were closely related with *L. acidophilus* or *L. bulgaricus*. Interestingly, *L. casei* subspecies were divided into Thermobacterium(*L. casei* YIT9018) and Streptobacterium(*L. casei* CHR. Hansen and *L. casei* ATCC4646). Further evidences from physiological and biochemical analysis confirmed that *L. casei* YIT9018 was different from the other tested *L. casei* strains in many ways.

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Properties of Marine Symbiotic Microorganisms Isolated from Sponges Collected in Keo Mun Island

Hongkum Lee, Han Yun Cho, Deuk-Soo Lee, Sang-Jin Kim,
Jee Hyung Jung,¹⁾ Chung-Ja Sim²⁾

Korea Ocean Research & Development Institute,

¹⁾ Pusan National University, ²⁾ Hannam University

Marine sponges have been sources of various novel bioactive compounds with activities ranging from antimicrobial to antiviral to antitumor. Marine sponges also contain diverse communities of microorganisms. Many of bioactive compounds isolated from sponges have been proved to be produced by symbiotic microorganisms. Studies have been carried out to determine the composition and structure of communities of microorganisms associated with marine sponges. 141 strains of marine bacteria, two strains of actinomycetes and 16 strains of yeast were isolated from 29 species of sponges collected from Keo Mun Islands. From water samples 64 bacterial strains were isolated. The resident microbial communities of sponges were composed of 80% of rod form bacteria and 20% of cocci, whereas water samples were composed of 88% of rods and 12% of cocci. The ratio of gram positive bacteria isolated from sponges apporoved 26%, and that of water samples was 16%. Some of symbiotic bacteria associated with selected species of marine sponges like *Jaspis* sp., *Petrosia* sp., *Poecillastra cribrum*, and *Penares* sp. produced cytotoxic compounds.