

## ISOLATION AND CHARACTERIZATION OF BACTERIOCIN PRODUCING LACTOCOCCI FROM KIMCHI

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Kimchi is a Korean traditional fermented vegetable which contains huge number of probiotic lactic acid bacteria (LAB), organic acids, vitamins, and modified functional phytochemicals formed during the fermentation process. Bacteriocin producing LAB were isolated Kimchi by using the spot-on-the-lawn method. Bacteriocins in Gram-positive bacteria have attracted much attention because many have a strong antimicrobial activity also against bacteria outside the genera of the producers. This project aims to isolate bacteriocin producing LAB from Kimchi showing antimicrobial effects against *Listeria monocytogenes*, *Staphylococcus aureus*. *Listeria monocytogenes*, *Staphylococcus aureus*, *Salmonella* Typhimurium were used as indicators. One isolate (JU41) was confirmed to produce bacteriocin which inhibited efficiently the growth of *Listeria monocytogenes*, *Staphylococcus aureus*. 16Sr DNA sequencing and sugar utilization pattern test identified that JU41 was *Lactococcus lactis* spp *lactis*. Bacteriocin was heat-stable, and its activity was not affected even after 15min at 121°C. It was not affected by pH variation in the range between of 3-10. The activity of bacteriocin, however, was destroyed by treatment with proteinase K, pepsin and trypsin, whereas full activity remained after treatment with lysozyme, catalase, and RNaseA. Bacteriocin producing during growth of *L. lactis* spp *lactis* JU41 was observed of maximum activity bacteriocin in cells grown at 37°C. Properties of bacteriocin including production kinetics, stabilities, and the nature of inhibition were examined.

Keywords: *Lactococcus*, Kimchi, bacteriocin, Lactic acid bacteria

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