

Characterization and Cloning of Leuconocin J, a Bacteriocin Produced by *Leuconostoc* sp. J2

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*Leuconostoc* sp. J2, isolated from naturally fermented *Kimchi*, produced a bacteriocin which was named leuconocin J. This bacteriocin exhibited inhibitory activity against several lactic acid bacteria and some foodborne pathogens. It appeared as a proteinaceous nature since its activity was completely inactivated by a range of proteolytic enzymes, and it also was relatively heat-stable. This inhibitory compound was partially purified by precipitating the cell-free filtrate with ammonium sulfate and by dialysis. The apparent molecular mass of partially purified bacteriocin, as indicated by activity detection after SDS-PAGE was 2.5-3.5 KDa. The gene encoding bacteriocin was cloned in *E. coli*. The 2.3 Kb *EcoR* I fragment of plasmid from the producer strain was cloned into pUC118 and transformed *E. coli* DH5 $\alpha$ . Phenotypic expression of the bacteriocin production was found in transformants. Southern blot hybridization with the 2.3 Kb insert as a probe against plasmid digests of *Leuconostoc* sp. J2 revealed that the cloned foreign DNA was originated from *Leuconostoc* sp. J2.