

Inhibition of Psychrotrophic Organisms by Propionicin PLG-1, a Bacteriocin Produced by *Propionibacterium thoenii*

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Propionibacterium thoenii strain P127, which produces the bacteriocin propionicin PLG-1, was grown in a skim milk medium and produced bacteriocin in that medium. No bacteriocin activity was detected in skim milk medium in which strain P127-1, a bacteriocin-negative variant of strain P127, had been grown.

Five psychrotrophic spoilage or pathogenic organisms (one strain each of *Listeria monocytogenes*, *Pseudomonas fluorescens*, *Vibrio parahaemolyticus*, *Yersinia enterocolitica*, and one strain of *Corynebacterium* sp.) were incubated for 24 h in laboratory medium, nonfermented skim milk, and skim milk that had been fermented by strain P127 or P127-1. Strains were inhibited only in the skim milk fermented by strain P127, as evidenced by loss in numbers of viable cells after 24 h at 10° C and less growth than in other media after 24 h at optimal growth temperatures. Growth of selected strains was delayed or slowed during prolonged incubation (21 d) at 10° C. Propionicin PLG-1 shows promise as a preservative for food products.

Key Words: psychrotrophic organisms • antimicrobial activity • propionicin PLG-1 • bacteriocin

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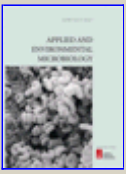
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