

## **Lactic acid bacteria and their bacteriocins: new potential weapons in the fight against methicillin-resistant *Staphylococcus aureus***

### **ABSTRACT**

Alternative solutions are eminently needed to combat the escalating number of infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA). Bacteriocins produced by lactic acid bacteria are promising candidates for next-generation antibiotics. Studies have found that these stable and nontoxic ribosomally synthesized antimicrobial peptides exhibit significant potency against other bacteria, including antibiotic-resistant strains. Here the authors review previous studies on bacteriocins that have been effectively employed to manage MRSA infections. The authors' review focuses on the beneficial traits of bacteriocins for further application as templates for the design of novel drugs. Treatments that combine bacteriocins with other antimicrobials to combat pervasive MRSA infections are also highlighted. In short, future studies should focus on the pharmacodynamics and pharmacokinetics of bacteriocins–antimicrobials to understand their interactions, as this aspect would likely determine their efficacy in MRSA inhibition.