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Bacteriocin production by *Lactobacillus crispatus* vaginal isolates**Emiley Watson**

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Bacterial Vaginosis (BV), affecting millions of women annually, can lead to detrimental health conditions. Current treatment of BV is unreliable, with a 50% recurrence rate within six months. This common occurrence of BV and ineffectiveness of treatment poses a threat to quality of life and represents a large financial burden on the health care system. The vagina contains a community of bacteria that influence vaginal health. Dysbiosis of the vaginal microbiota leads to this condition. Most commonly dominating the vaginas of healthy women, *Lactobacillus crispatus* has been shown to be inversely associated with BV. Moreover, *L. crispatus* has also been shown to produce antimicrobial compounds. New therapies are needed for the treatment of BV and due to this inverse association with bacterial vaginosis, re-introduction with *L. crispatus* may act as a new treatment for the condition. To confirm bacteriocin production, a series of agar well diffusion assays were conducted to test the ability of *L. crispatus* supernatants from each of the strains to inhibit growth of an indicator strain. Genomic analysis of the strains was also conducted to identify putative bacteriocin genes. The *L. crispatus* strains produce anti-microbial compounds which inhibit the growth of *E. faecalis*, *G. vaginalis* and *C. albicans*. The variation seen between zones of inhibition suggests that the strains vary in their ability to inhibit pathogen growth. The strains exhibiting the greatest amount and breadth of pathogen inhibition are the most promising probiotic candidates for the treatment of BV.

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