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An in vitro assessment of the effects of broad-spectrum antibiotics on the human gut microflora and concomitant isolation of a *Lactobacillus plantarum* with anti-Candida activities.

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Chemostat culture was used to determine the effects of the antimicrobial agents tetracycline and nystatin on predominant components of the human gut microflora. Their addition to mixed culture systems caused a non-specific, and variable, decrease in microbial populations, although tetracycline allowed an increase in numbers of yeasts. Both had a profound inhibitory effect upon populations seen as important for gut health (bifidobacteria, lactobacilli). However, a tetracycline resistant *Lactobacillus* was enriched from the experiments. A combination of genotypic and phenotypic characterisations confirmed its identity as *Lactobacillus plantarum*. This strain exerted powerful inhibitory effects against *Candida albicans*. Because of its ability to resist the effects of tetracycline, this organism may be useful as a probiotic for the improved management of yeast related conditions such as thrush and irritable bowel syndrome.

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