

Poster 10

## Antifungal activity of *Limosilactobacillus reuteri* against *Candida albicans* and non-*Candida albicans* *Candida*

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### Abstract

**Background:** Oral candidiasis is one of the most present fungal infections, with *Candida albicans* being the foremost responsible for this infection, but in recent years the non-*Candida albicans* *Candida* species play a significant role in the rise of cases of oral candidiasis [1]. Phenomena of resistance to regular antifungals are rising, which makes it harder to control cases of oral candidiasis. Thus, searching for new approaches like probiotics, and their use in the oral cavity, becomes necessary and urgent [2]. Here we present the antifungal activity of newly isolated oral strain of *Limosilactobacillus reuteri*, a potential probiotic. **Objective:** Evaluation of *Limosilactobacillus reuteri* AJCR antifungal activity against reference strains of *Candida* spp.. **Methods:** *Limosilactobacillus reuteri* AJCR was isolated from the oral cavity of a healthy, caries free, volunteer, following the methodology of Rossoni *et al.* [2]. Four reference strains, *Candida albicans* SC5314, *Nakaseomyces glabrata* ATCC2001, *C. tropicalis* ATCC750, and *C. parapsilosis* ATCC22019, were used to evaluate the antifungal activity in planktonic cells. The methodology followed was adapted from the EUCAST guidelines [3]. Different amounts of *L. reuteri* ( $10^8$ - $10^2$  CFU/mL, final concentration) were added, to standardized suspensions of the *Candida* strains studied. **Results:** At *L. reuteri* concentration of  $10^8$  CFU/mL, no viable cells of *C. albicans* SC5314 and of *C. tropicalis* ATCC750 were detected. At the same concentration, *Nakaseomyces glabrata* ATCC2001 suffered a reduction in growth of around 4 Log. *Candida parapsilosis* ATCC22019 suffered a reduction of around 2 Log at concentration of  $10^7$  CFU/mL of the oral isolate. **Conclusions:** *Limosilactobacillus reuteri* AJCR has shown an excellent antifungal activity against planktonic cells of *C. albicans* SC5314 and *C. tropicalis* ATCC750, and a significant reduction in the growth of *Nakaseomyces glabrata* ATCC2001 and *C. parapsilosis* ATCC22019. To further characterize the antifungal activity of the isolate, studies with biofilm cultures must be performed.

**Keywords:** probiotics; oral candidiasis; *L. reuteri*

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