

Poster 8

Insect peptides as novel compounds against *Candida* spp. infections

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Abstract

Background: *Candida* spp. infections are increasing all over the world, as well as antifungal resistance, highlighting the urgent need for new therapeutic strategies. Previously, several *in silico* studies have identified insect peptides as potential antifungal drugs – BLAP-6 (from *Blaps rhychopetera*) and Gomesin (from *Acanthoscurria gomesiana*) against different fungal species.

Objective: The present study aimed to evaluate the antifungal activity of both peptides on *Candida* spp.. **Methods:** The evaluation was conducted using several methods, including disk diffusion, minimum inhibitory concentration (MIC), minimum biofilm eradication concentration (MBEC) (EUCAST guidelines), and biofilm biomass quantification by crystal violet staining. **Results:** MIC and MBEC assays showed that Gomesin has potent antifungal activity at lower concentrations (270 mg/L), achieving total biofilm eradication for most species, except *C. glabrata*. BLAP-6 exhibited moderate antifungal effects, with some tolerance/resistance profiles observed. **Conclusions:** BLAP-6 and Gomesin are promising drug candidates suitable for the treatment of *Candida* spp. infections. Furthermore, some species showed some tolerance/resistance to BLAP-6; therefore, the study of mechanisms involved should be seen as an important future perspective.

Keywords: *Candida* spp.; *Candida albicans*; *Candida tropicalis*; *Candida glabrata*; *Candida parapsilosis*; insect peptides; antifungal resistance; antifungal activity

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