

Abstract

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Title: Study of interactions of quorum sensing with yeasts. Part I

Diploma thesis

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Study programme: Pharmacy

Background:

The aim of the work is to sum up findings about quorum sensing in *Candida albicans* communication. The quorum sensing effects were studied on farnesol on model of conversion of blastospores into germ tubes in *C. albicans*.

Methods:

Four strains of *C. albicans* were tested, two of them were from American Type Culture Collection and two were obtained from the patients suffering from vulvovaginal candidosis. The method of germ tube test was standardized to evaluate the farnesol effects on germ tube induction including the possibility for testing effects of preincubation in presence or absence of farnesol.

Results:

There was no significant difference in the production of germ tubes between Sabouraud glucose agar and YPD medium used for the preparation of inoculum. The chemically defined medium NYP provided more consistent results than bovine serum in terms of germ tube induction if the cell density of a yeast was 10^6 cfu/ml. It is better to hold experiments in test tubes made of glass than plastic.

Experiments with farnesol showed that germ tube inhibition was strain-dependent. Preincubation with farnesol had no effects on germ tube inhibition.

Conclusions:

The effect of farnesol on *C. albicans* was strain-specific and depended on composition of medium and on concentration used.

