



## Z-002

### Comparison of tyrosol's effect on *Candida albicans* and *Candida glabrata* in different stages of biofilm development

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#### Objectives

The aim of this study was to compare the effect of tyrosol on *Candida albicans* and *Candida glabrata* in different stages of biofilm development (2, 48 and 96 h).

#### Methods

Tyrosol was diluted in yeast inocula (107 cells/mL in artificial saliva) at 25, 50, 100 and 200 mM, and added to wells of 24-well plates containing the acrylic specimens. Then, the plates were incubated at 37 °C for 2 and 48 h. Moreover, tyrosol was applied to pre-formed biofilms (24-h old) twice a day for 1 min, during 3 days (totaling 96 h-old biofilms). Tyrosol efficacy was assessed by quantification of total biomass (TB), metabolic activity (MA) and colony forming units (CFUs). Data were analyzed by ANOVA and Holm-Sidak test ( $\alpha = 0.05$ ).

#### Results

For adhesion assays (2 h), tyrosol promoted significant reductions in the TB, MA and CFUs of *C. albicans*, while for *C. glabrata* these reductions occurred only for CFUs in the group 200 mM tyrosol ( $p < 0.001$ ). Further, for 48 h-old biofilms grown in the presence of tyrosol, it was possible to note dose-dependents inhibitory effects for both *Candida* species. Regarding 96 h-old biofilms, tyrosol was more effective in reducing TB and MA on *C. glabrata* biofilms than on *C. albicans*. There were no reductions in CFUs at this stage.

#### Conclusions

In summary, tyrosol showed better results on the less advanced stages of biofilm development. Thus, this compound has potential to contribute at preventing oral infections caused by *Candida* species.

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