

In Vitro Investigation of β -Citronellol Biological Effect in Association with Amphotericin B against *Candida tropicalis*

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SUMMARY. *Candida tropicalis* is one of the major pathogenic and virulent species of *Candida* involved in candidemia. In this research the *in vitro* antifungal activity of β -citronellol against *Candida tropicalis* was investigated, as well as the association between amphotericin B and the phytoconstituent through checkerboard method to obtain the Fractional Inhibitory Concentration Index (FICI). β -citronellol displayed a Minimum Inhibitory Concentration (MIC) of 64 $\mu\text{g}/\text{mL}$ and Minimum Fungicidal Concentration (MFC) of 256 $\mu\text{g}/\text{mL}$ for 50% of the tested strains. The combination of β -citronellol with amphotericin B resulted in synergism against the ATCC strain and additivity to the clinical strain. In conclusion, the acyclic monoterpene β -citronellol exhibited optimal antifungal activity with fungicidal effect against *C. tropicalis* whilst showing beneficial effect when combined with amphotericin B.

RESUMEN. *Candida tropicalis* es una de las principales especies patógenas virulentas de *Candida* involucradas en la candidemia. En esta investigación, se investigó la actividad antifúngica *in vitro* del β -citronelol contra *Candida tropicalis*, así como la asociación entre la anfotericina B y el fitoconstituyente mediante el método de tablero de ajedrez para obtener el Índice de concentración inhibidora fraccional (FICI). El β -citronelol mostró una concentración inhibitoria mínima (MIC) de 64 $\mu\text{g} / \text{mL}$ y una concentración fungicida mínima (MFC) de 256 $\mu\text{g}/\text{mL}$ para el 50% de las cepas analizadas. La combinación de β -citronelol con anfotericina B dio como resultado un sinergismo contra la cepa ATCC y la aditividad a la cepa clínica. En conclusión, el β -citronelol monoterpeno acíclico mostró una actividad antifúngica óptima con efecto fungicida contra *C. tropicalis* al tiempo que mostró un efecto beneficioso cuando se combinó con anfotericina B.

KEY WORDS: anti-*C. tropicalis*, checkerboard, β -citronellol.

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