

BIOACTIVITY ASSESSMENT OF ESSENTIAL OILS FROM PIPER AND CROTON IN *CRYPTOCOCCUS NEOFORMANS*

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RESUMO

Cryptococcus neoformans is a yeast fungus that infects immunocompromised people such as AIDS patients, and lower incidence, patients with sarcoidosis, lymphoproliferative disorders, and those undergoing immunosuppressive therapies. The spectrum of cryptococcal disease ranges from self-limiting cutaneous infections to fatal systemic ones. Considering the clinical relevance of *Cryptococcus neoformans*, experimental studies have been conducted to control, reduce or inhibit its activity. In this context, the aim of this study was to evaluate the inhibitory activity of essential oils (EO) against *C. neoformans*, obtained by hydrodistillation of three species of plants from the genus *Croton*: *Croton tricolor* (sacatinga), *Croton pulegioides* (velandinho), *Croton blanchetianus* (marmeleiro); and four species of plants from the genus *Piper*: *Piper marginatum* (capeba-cheirosa), *Piper tuberculatum* (pimenta darta), *Piper hispidum* (matico-falso) and *Piper sp.* The *in vitro* antifungal activities of *Croton* and *Piper* EOs against *C. neoformans* were analyzed by determining the minimum inhibitory concentrations (MICs) based on the international standard methodology of CLSI, M27-A2, and as proteolytic inhibitor of supernatant secreted proteases according Buroker- Kilgore & Wang (1993). None of the EOs tested was efficient against the growth of *C. neoformans* because the MICs obtained were >625 µg/mL. However, the results obtained of supernatant secreted proteases showed higher activity at pH 5, and this activity was reduced by 38% with *C. tricolor*, 67% with *C. pulegioides*, 65% with *C. blanchetianus*, 95% with *P. tuberculatum*, 81% with *P. hispidum*, 41% with *Piper sp.* and stimulated 36% with EO of *P. marginatum* when used at concentrations of 48 µg/mL. These results suggest a possible anti-*Cryptococcus* therapeutic potential of *Piper* and *Croton* EOs tested, which influenced the peptidase activity of this fungus.

APOIO

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