Abstract

In our previous work (Fabri et al. 2009), we showed that different extracts of Mitracarpus frigidus had significant antibacterial, antifungal and leishmanicidal activities. In order to increase our knowledge about this species, this work assesses the chemical composition and the in vitro biological activity of its essential oil. Thus, the essential oil obtained by hydrodistillation of the aerial parts of M. frigidus was analyzed by GC/MS. Among several compounds detected, 11 were identified, being linalool and eugenol acetate the major components. The essential oil exhibited a moderate antibacterial effect against Staphylococcus aureus, Bacillus cereus, Pseudomonas aeruginosa and Enterobacter cloacae (MIC 250 µg/mL). On the other hand, it showed a strong antifungal effect against Cryptococcus neoformans (MIC 8 µg/mL) and Candida albicans (MIC 63 µg/mL). Expressive activity against L. major and L. amazonensis promastigote forms with IC50 values of 47.2 and 89.7 µg/mL, respectively, were also observed. In addition, the antioxidant activity was investigated through DPPH radical-scavenging and showed a significative activity with IC50 of 38 µg/mL. The cytotoxicity against Artemia salina was moderate with LC50 of 88 µg/mL. The results presented here are the first report on the chemical composition and biological properties of M. frigidus essential oil.

Keywords

Mitracarpus frigidus, essential oil, antimicrobial, antileishmanial, cytotoxicity.