

## Antibacterial and antifungal activity of *Pogostemon cablin* (patchouli) essential oil

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Patchouli is the common name for plants that comprises a group of species of the genus *Pogostemon*, known for their medicinal and aromatic properties. The aim of this study was to evaluate the antimicrobial activity of essential oil from *P. cablin* against fungal and bacterial pathogens, including Methicillin Resistant *S. aureus*. Microorganisms tested were: *Escherichia coli* ATCC 25922, *Klebsiella pneumoniae* ATCC 10031, *Salmonella enterica* ATCC 13076, *Pseudomonas aeruginosa* ATCC 27587, *Staphylococcus aureus* MSSA ATCC 29213, *Staphylococcus aureus* MRSA N315, *C. albicans* ATCC 10231, *C. tropicalis* ATCC 28707, *C. parapsilosis* ATCC 22019, *C. glabrata* ATCC 2001, *C. dubliniensis* ATCC 646MYA, *C. krusei* ATCC 34135, *Cryptococcus gattii* ATCC 56990. *P. cablin* essential oil was evaluated in the broth microdilution test for the determination of the minimum inhibitory concentration, following The Clinical and Laboratory Standards Institute recommendations with modifications. MIC concentrations were investigated for pathogens survival. Both *S. aureus*, MSSA and MRSA, were inhibited with MIC of 2,5 mg/mL, but bactericidal effect was visualized for MRSA while MSSA was bacteriostatic. None of the Gram negative bacteria had their MIC determined until the maximum concentration tested (10 mg/mL). Among yeasts, inhibition was detected only against *C. albicans*, *C. glabrata* and *C. gatti*, with MIC values of 5,0, 2,5 and 1,25 mg/mL, respectively. Fungistatic effect observed against *C. albicans* while against *C. glabrata* and *C. gatti* the essential oil was fungicidal. Such inhibition found was surprisingly interesting, since cryptococcal activity was the best and more toxic than against *Candida* species. Differential mode of action of the oil compounds will be better explained with further studies.

Key-words: *Pogostemon cablin*; Antibacterial; Antifungal, MRSA.