



Chemical composition and antibacterial activity of the essential oil, extracts of leaves, branches and endophytic fungi associated with plant specie *Ocotea notata* (Ness) Mez (LAURACEAE).

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The specie *Ocotea notata* has the chemodiversity well recognized among the genus. According to COSTA (2014) the hexane fraction and spathulenol isolated from *O. notata* exhibited inhibition higher than 90% in assays performed with *M. bovis* compared to the mycobacterial growth. Bacterial resistance is a global public health threat². New approaches have been adopted to face the difficulty in finding new therapeutic agents for the treatment of resistant infections. The endophytic microorganisms are promising sources of several bioactive metabolites and might be potential targets on this area of research. The objective of this study is to evaluate the activity against susceptible and resistant hospital samples, obtained from essential oils, extracts and fractions of leaves, branches and endophytic fungi associated with *O. notata*. The crude extract subjected to liquid-liquid partition with hexane. The extraction of essential oil was held in Clevenger type apparatus. The extracts were obtained from 7 isolated endophytes, maceration of mycelial mass in EtOH was held for 5 days, and from culture fluids were made liquid-liquid partition with hexane and ethyl acetate (EtOAc). The essential oil was analyzed by GC-MS and the NIST library suggested the presence α -caryophyllene (9.80%), spathulenol (3.76%) and caryophyllene oxide (51.8%), among other terpenes. Already from the hexane fraction were detected: cis- α -santalol (9.27%), spathulenol (10.79%) and santalol (2.31%), among others. The extracts (stalk and leaves) and ButOH and EtOAc fractions were subjected to analysis by HPLC-DAD and UV spectra of major peaks detected in the chromatograms of these extracts showed the presence of maximum characteristic absorbance of the presence of flavonoid structures (254; 350 nm). According to BRITO (2009), the essential oil extracted from *O. porosa* also has substances such as spathulenol, caryophyllene oxide among others with activity against *S. aureus* (ATCC 6538), *E. coli* (ATCC 8739) and *P. aeruginosa* (ATCC 8739). These trials demonstrate the importance of the research of *O. notata* extracts rich source of terpenes on antibacterial activity. The extracts and fractions of the leaves and branches as well as the essential oils obtained were subjected to the test for evaluation of the antibacterial activity by dilution method on microplates according to the CLSI (2015) against *Staphylococcus epidermidis* (ATCC 12228). The antibacterial activity was observed on leaves and branches crude extracts and hexane, EtOAc and ButOH fractions in a concentration of 512 mg/mL. Further tests will be conducted with other sensitive and resistant bacterial samples from the *Staphylococcus* genus.

References:

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