



Bioprospecting plants from Brazilian Atlantic Forest with antioxidant properties

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Brazilian biodiversity is a source of great variety of medicinal plants, offering a particular potential for biologically active compounds with unique structures and contributing toward modern drug discovery and/or development of cosmetic products. Brazil contains 10–20% of the world's known living species, and may have many more that have not yet been discovered. Most of this fantastic biological and chemical diversity have not been studied, which represents an economic potential to be explored aimed at the identification of new bioactive agents [1]. Our research involves the chromatographic analysis (metabolomic tools) and the evaluation of antioxidant capacity by DPPH [2] and peroxy radical scavenging methods [3] of different species from Brazilian Atlantic Forest biome: *Solanum granuloso*, *Rubus brasiliensis*, *Cordia eucalyculata*, *Baccharis genistelloides*, *Eugenia handroana*, *Eugenia puryformis* and *Ocotea paranapiacabensis*. The hydroalcoholic extracts were prepared by maceration with ethanol 70% during 48 hours, submitted to metabolomics studies by HPLC-UV/DAD and subjected to bioassays. The extracts presented antioxidant capacity, ranging from 17.2% to 85.7% of DPPH radical scavenging at 20 $\mu\text{g mL}^{-1}$, highlighting the *R. brasiliensis* and *B. genistelloides* extracts which presented 85.7% and 80.2% of radical scavenged, respectively. The percentage of scavenged peroxy radical measured by piranine method varied between 24.8% and 75.4% at 10 $\mu\text{g mL}^{-1}$. The highest antioxidant activity in this assay was observed for *R. brasiliensis* extract. Thus, the use of different methods for the evaluation of the antioxidant action is important and should be based on the identification of different mechanisms under variable conditions, reflecting the multifunctional properties of antioxidant compounds present in different species. The chromatographic profile of the *R. brasiliensis* and *B. genistelloides* extracts obtained by HPLC-UV/DAD analysis showed the presence of high amount of flavonoids, which might be responsible for the antioxidant activity. Additionally, anti-glycation assays are being conducted to possible application of the active extracts as functional cosmetic.

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[3] Campos, A. M., Sotomayor, C. P., Pino, E., Lissi, E. 2004. A pyranine based procedure for evaluation of the total antioxidant potential (TRAP) of polyphenols. A comparison with closely related methodologies. *Biol. Res.* 37: 287-292.

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