

Evaluation of Antioxidant and Antimicrobial Activities and Characterization of Bioactive Components of Two Brazilian Propolis Samples Using a pK_a -Guided Fractionation

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The ethanolic extracts of two Brazilian propolis samples were submitted to a fractionation procedure based on the pK_a values of their components. The fractions obtained were evaluated for their antimicrobial activity against *Staphylococcus aureus* as well as for their antioxidant properties (reduction of DPPH radical). Their phenolic and flavonoid contents were measured spectrophotometrically, in order to establish the correlations between these contents and the measured activities. Further, the most active fractions of both extracts were analyzed by HRGC-MS and about twenty compounds could be characterized. Among them were 3-prenyl-4-hydroxycinnamic acid (drupanin) and 3,5-diprenyl-4-hydroxycinnamic acid (artepillin C), which seem to be the major antioxidant components of the bioactive fractions.

Key words: Antibacterial Activity, Antioxidant Activity, Propolis