Antioxidant Activity of Sesquiterpenic Lactones

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Objective: Oxygen is essential for life and is an element with a double physiological profile, indispensable for life and for the environment; it can also become toxic, as unstable molecules called free radicals, which at high concentrations are capable of damaging biomolecules, may derive from it. Our aim was to evaluate the antioxidant activity in natural products, specifically sesquiterpenic lactones in in vitro models of antioxidant activity. Methods: A range of concentrations (0.1 to 100 µg /mL) of sesquiterpenic lactones was established to evaluate their antioxidant activity by in vitro antioxidant techniques in non-enzymatic and enzymatic systems (biological system). Results: The lactones present antioxidant activity that depends on the viable biological system, as shown by the results of the chemiluminescence signal produced by lucigenin, that shows a decrease in the basal value of 1321.68 +51.02 to 147.78 + 9.09 in Lactone 1 and 252.96 +13.52 Lactone 2. These values are affordable to those observed with quercetin 245.00 + 7.64 measured in RLU / min/ weight at concentrations of 100 µg / mL of the products. Both lactones and quercetin showed antioxidant efficacy in a concentration-dependent manner, from concentrations of 1 µg / mL. Conclusion: The results of the study show the antioxidant capacity of sesquiterpenic lactones, which is evident in biological systems in the presence of lucigenin, so we postulate that lactones 1 and 2 act by modulating the enzymatic systems as a mechanism of antioxidant action.

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