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Phytochemical profiles and antioxidant activity of *Baccharis dracunculifolia* and *Baccharis trimera* ethanolic extracts

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Baccharis sp. plants have been demonstrated antioxidant, neuroprotective and antiinflammatory properties. The goals of this work are to i- characterize the phytochemical profile of *Baccharis dracunculifolia* (BD) and *Baccharis trimera* (BT) extracts, and ii- evaluate their in vitro antioxidant activity.

Phytochemical profiles of BD and BT ethanolic extracts were obtained by HPLC-DAD. The phytochemical analysis showed that both plants are mainly composed by phenolic compounds (flavonoids and phenolic acids derivatives), which are known to have antioxidant properties. Antioxidant activity was evaluated using several in vitro models: free radical scavenging (DPPH method), iron quelation (ferrozine method), NO and SO scavenging, reduction power (FRAP method), and lipid peroxidation (β -carotene bleaching assay); quercetin was used as a reference antioxidant standard. Both extracts showed antioxidant activity in all assays, except BT that did not display an efficient chelating iron activity. In general, BD exhibited better antioxidant activities (EC_{50} mg dw/ml; DPPH: 54.3 ± 4.9 ; SO: 11.1 ± 2.2 ; β -carotene: 60.0 ± 5.3) than BT. BD showed higher activities in NO scavenging (EC_{50} , 217.1 ± 19.5) and FRAP assays (EC_{50} , 35.0 ± 3.0). The antioxidant activities of extracts were significantly different in all assays ($p < 0.05$), except for DPPH and FRAP assays. Remarkably, BD demonstrated significant higher activity in scavenging SO radical than quercetin, and both plants displayed better activity than quercetin in reducing ferric ions. Thus, our studies proved that BD and BT can be used as source of compounds with pharmacological properties, namely antioxidants, which could be helpful in neuroprotection and other oxidative stress-related diseases.

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