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Antioxidat Capacity Of Polyphenolics Extracts In Two *Mangifera indica* Bark varieties

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Abstract: *Mangifera indica* bark (mango), has been studied in Cuba as a therapeutic polyphenolic extract. In Mexico at least six mango varieties are grown. We obtained polyphenolic extracts from two mango bark varieties: manila and Tommy Atkins, collected at INIFAP Cotaxtla Veracruz. Dried and ground bark was extracted with four solvents independently, water, 96% ethanol, ethanol:water 70/30 and ethyl acetate extract obtained by liquid-liquid partition of concentrate aqueous ethanol:water 70/30 extract. Total phenols (TP), flavonoids (F), DPPH EC_{50}, and β-carotene assays were evaluated. A comparison of presence-absence of polyphenolics compounds by HPLC-MS was made. Both varieties have similar concentrations of phenols and flavonoids, the highest concentrations were obtained with the ethyl acetate solvent. In antioxidant capacity by DPPH, ethanol 96% extract had the best capacity in Manila variety, while in Tommy Atkins was ethanol 70% extract. The β-carotene assay was similar in both. By HPLC-MS assay similarities in the presence or absence of compounds were found. Mangiferin (MW 422 Da) is the main compound in both varieties. Evidence of mangiferin gallate (MW 574 Da) and type catechin (flavan-3-ol) flavonoids were found.

Keywords: *Mangifera indica*, antioxidants, bark, polyphenols, HPLC-MS

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