SUPPLEMENTARY MATERIAL

Role of the flavonoid-rich fraction in the antioxidant and cytotoxic activities of *Bauhinia forficata* Link. (Fabaceae) leaves extract

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ABSTRACT

Bauhinia forficata Link. is utilized as an antidiabetic in Brazilian folk-medicine; further, its antioxidant properties suggest a potential usefulness in the prevention of diabetes complications associated with oxidative stress. The contribution of a flavonoid-rich fraction (FRF), HPLC-PDA-ESI-MS characterized, to the antioxidant and cytotoxic properties of *B. forficata* hydro-alcoholic leaves extract was evaluated for the first time. Both extract and FRF showed radical scavenging activity and reducing power with a strong relationship with the flavonoid content found; hence, flavonoids are mainly responsible for the primary antioxidant activity of *B. forficata* extract. The extract significantly decreased FO-1 cells viability at the higher concentrations. FRF didn't exert any effect; thus, flavonoids seem not responsible for the cytotoxicity of the extract. The extract resulted virtually non-toxic against both *Artemia salina* and normal human lymphocytes, demonstrating potential selectivity in inhibiting cancer cell growth. Finally, no antimicrobial activity was observed against the bacteria and yeasts tested.

Keywords: *Bauhinia forficata* Link.; Flavonoid-rich fraction; Phenolic profile; Antioxidant activity; Cytotoxic activity.

Contents of supplementary data:

Figure S1. HPLC-PDA-ESI-MS polyphenolic fingerprint of *B. forficata* leaves hydro-alcoholic extract and flavonoid-rich fraction (FRF).

Figure S2. Free radical scavenging activity of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF).

Figure S3. Reducing power of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF).

Figure S4. Chelating activity of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF).

Figure S1. HPLC-PDA-ESI-MS (negative ionization mode) polyphenolic fingerprint of (A) *B. forficata* leaves hydroalcoholic extract and (B) flavonoid-rich fraction (FRF). Column: C₁₈, 15 cm x 4.6 mm, 2.7 µm particles (Ascentis® Express). For peak identification, see Table 1.

Figure S2. Free radical scavenging activity of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF), measured by the DPPH method. The results were obtained from the average of three independent experiments and are expressed as the mean percentage (%) $\pm$ SD.

Figure S3. Reducing power of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF), evaluated by spectrophotometric detection of Fe^{3+} - Fe^{2+} transformation method. The results were obtained from the average of three independent experiments and are expressed as the mean absorbance $\pm$ SD.

Figure S4. Chelating activity of *B. forficata* leaves extract, *n*-hexane fraction (HF) and flavonoid-rich fraction (FRF), measured by inhibition of ferrozine-Fe²⁺ complex formation. The results were obtained from the average of three independent experiments and are expressed as the mean percentage (%) $\pm$ SD.