HPLC assay applied to aqueous and hydroethanolic extracts from *Sida tuberculata* R.E. Fries. (Malvaceae)

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**Palavras Chave:** Flavonoids; HPLC; Infusion; Percolation; *Sida tuberculata*.

**Introduction:** *Sida tuberculata* R.E. Fries. is an herbaceous species extensively found on Pampa Biome region of Rio Grande do Sul, Brazil. The species from *Sida* genus are known popularly as “guanxuma”, and the literature survey describes their use in folk medicine for some diseases, such as ulcer, abscesses and for diarrhea treatment. Aiming to know the composition of *Sida* species present in that region, this work presents an analytical purpose based on HPLC method applied to aqueous and hydroethanolic extracts of *Sida tuberculata*.

**Experimental:** Plant material of *Sida tuberculata* was collected in August 2011 in the city of Uruguaiana (RS, Brazil). It was identified and voucher specimens were deposited at herbarium. For preparation of extracts, leaves and roots of plant were dried at 40°C for 5 days. After, the material was reduced to powder and submitted to extraction by percolation and infusion using hydroethanolic solution (40%, v/v) and water as solvents (drug:solvent, 1:10), respectively. The analysis by HPLC were performed using a reverse-phase system, following the established conditions: C18 column (250 x 4.6 mm); 0.8 ml min⁻¹ flow rate; detection by DAD system, 340 nm; gradient elution performed using a mobile phase composed by acetonitrile and phosphoric acid 0.05%, pH 3.0. The chromatographic analyses were compared to quercetin and kaempferol derivatives standards, for evaluation of the presence of these phenolic compounds.

**Results/Discussion:** Initially, experiments were performed to determine the best chromatographic system to provide the detection of main substances. From the defined analytical condition, the chromatographic assay presented a good separation profile (Figure 1). Some flavonoid derivatives, were detected on a retention time range of 16.0-20.0 and 22.0-27.0 min for leaves and roots, respectively. The comparative study and other references, indicated the possible presence of quercetin and kaempferol glycosylated derivatives. The chromatographic profiles were different depending on the samples, leaves or roots. The comparison to standard solutions retention times and UV spectrum data obtained from detection system are complementary. When the results are inserted in additional works, as MS analysis, the prediction of structures was viable.

**Conclusion:** The HPLC analysis performed allowed an evaluation of the presence of phenolic compounds in the studied material, showing differences in flavonoid composition in leaves and roots of *Sida tuberculata*.

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**Figure 1.** Representative chromatogram of HPLC analysis of leaves hydroethanolic extract (A) and roots aqueous infusion (B) from *Sida tuberculata*. 